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Edited by

FRANCIS HEMMING, C.M.G., C.B.E.

Secretary to the International Commission on Zoological Nomenclature

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BULLETIN OF ZOOLOGICAL NOMENCLATURE

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CASE No. 3

DOCUMENTS RELATING TO THE QUESTION OF THE REFORM OF THE PROVISIONS IN THE "RÈGLES" RELATING TO THE NAMING OF FAMILIES AND LOWER SUPRAGENERIC GROUPS

DOCUMENT 3/1

Origin of the Present Investigation

Editorial Note.—The present investigation into the question of the reform of the provisions in the *Règles* relating to the naming of families and lower categories of suprageneric rank was undertaken in response to an invitation given in July 1948 when the International Commission on Zoological Nomenclature at its Paris Session had under consideration the question of consolidating into the *Règles* the interpretations of the existing provisions relating to the foregoing subject rendered by it in various of its *Opinions*. The Commission then agreed to recommend (1950, *Bull. zool. Nomencl.* **4** : 138) :—

> "(1) that the Secretary to the Commission should be invited to make a thorough study, in consultation with interested specialists, of the problem of the nomenclature of Super-Families, Families, Sub-Families and Tribes and to submit a Report thereon, with recommendations, for consideration by the Commission at their meeting to be held during the next (XIVth) meeting of the Congress, with a view to the submission by the Commission of proposals for the insertion in the *Règles* of comprehensive provisions dealing with this subject."

2. The foregoing recommendation, with other recommendations, was submitted to, and approved by, the Section on Nomenclature of the Thirteenth International Congress of Zoology at its Second Meeting held on 24th July 1948 (1950, *Bull. zool. Nomencl.* **5** : 67, 76).

DOCUMENT 3/2

General Consultation With Specialists and Issue of an Appeal for Advice in 1952

Editorial Note.—Attention is drawn to the review prepared by the Secretary to the International Commission on Zoological Nomenclature of the problems involved in the naming of Families and lower categories of suprageneric rank which was published in March 1952 (*Bull. zool. Nomencl.* **7** : 61-94). This review contained an appeal to specialists to assist in the present investigation by furnishing statements of their views on the action which it was desirable should be taken. It was in response to this appeal that the majority of the documents now submitted was furnished.

DOCUMENT 3/3

The Question Raised by Dr. Harold W. Manter Regarding the Name Properly Applicable to the Family Containing the Genus "Dissotrema" Goto & Matsudaira, 1918 (Trematoda)

Editorial Note.—Attention is drawn to the application submitted to the International Commission by Dr. Harold W. Manter in 1935 in regard to the name properly applicable to the Family containing the genus *Dissotrema* Goto & Matsudaira, 1918 (Trematoda). The point here was (1) that, after the Family Name DISSOTREMATIDAE had been established for the above genus, it was found that the name *Dissotrema* was an objective junior synonym of the name *Gyliauchen* Nicoll, 1915, but that the author who recognised this synonymy (Goto, 1919), while taking the view that this genus required to be placed in a separate Family, did not rename the Family GYLIAUCHENIDAE, (2) that later Fukui (1928) placed the above genera in the same Family as *Opistholebes* Nicoll, 1915, and gave the name OPISTHOLOBETIDAE to the Family which he so recognised.

Dr. Manter's application in regard to the foregoing case was published in 1947 (*Bull. zool. Nomencl.* **1** : 197-198). When in Paris in 1948 preliminary consideration was given to this case by the International Commission, it was decided that a decision on it should be deferred until after the completion of the general review of the problems involved in the naming of Families, the institution of which had already been decided upon, it being agreed at the same time that the papers relating to this case should form part of the documentation for that review (1950, *Bull. zool. Nomencl.* **4** : 401-402).

DOCUMENT 3/4

By H. BOSCHMA

(*Rijksmuseum van Natuurlijke Historie, Leiden, The Netherlands*)

Examples of Homonymous Family Names

(1) Enclosure to a letter dated 30th January 1946

The names CYPRINIDAE, type genus *Cyprinus* Linnaeus, 1758, and CYPRINIDAE, type genus *Cyprina* Lamarck, 1818, both seem to have been in constant use for about a century. It is rather difficult to trace the authors of family names, as these are rarely mentioned in literature.

Günther (1868, *Cat. Fishes Brit. Mus.* **7** : 3) mentions Agassiz (1843, *Rech. Poiss. foss.* **5**) as author of the family name CYPRINIDAE (fishes).

Jeffreys (1863, *Brit. Conch.* **2** : 297) mentions Geinitz as author of the family name CYPRINIDAE (molluscs). In Agassiz & Strickland (1852-1853, *Bibl. Zool. Geol.* **3**) and in Carus & Engelmann (1861, *Bibl. Zool.* **2**) papers by Geinitz are cited dating from 1837 to 1861.

Bucquoy, Dautzenberg & Dollfus (1892, *Moll. mar. Roussillon* **2** : 313) state that Pictet (1835, *Traité Paléont.* **3** : 463) established the family CYPRINIDAE (molluscs). They add (*l.c.*) : " Le nom de *Cyprinidae* ne peut être conservé pour cette famille, car il a été employé plus anciennement pour désigner une famille de poissons." As a substitute for CYPRINIDAE (molluscs), they use the family name ISOCARDIIDAE, a name which they prefer to GLOSSIDAE, which appears to have been used for the same family by Stoliczka & Cossmann (the name *Glossus* had been proposed to replace *Isocardia*).

It is not advisable to use the name ISOCARDIIDAE instead of CYPRINIDAE. The genera *Cyprina* and *Isocardia* form rather different groups, so that some later author may be inclined to place these genera in separate families.

However this may be, to avoid confusion it is necessary to restrict the family name CYPRINIDAE to one of the two groups of animals, fishes or molluscs.

The CYPRINIDAE (fishes) form a group of animals of economic importance, so that the literature on this subject is much more extensive than that dealing with the CYPRINIDAE (molluscs). It is, therefore, advisable to restrict the family name CYPRINIDAE to the group of fishes.

In *Opinion* 140 (MEROPIDAE and MEROPEIDAE) an elegant solution of the difficulty could be found ; here the case is less simple. Perhaps the name CYPRINAIDAE might be proposed, although this name is not rigidly derived from the stem of the name of the type genus *Cyprina*.

(2) Letter dated 9th January 1950

Besides the case of MEROPIDAE, now settled by the Commission, and that of the name CYPRINIDAE, now brought before the Commission, there are two more interesting cases of identical Family Names :—

(1) The genus *Metridium* (Anthozoa, Actiniaria), Family Name, METRIDIIDAE ; the genus *Metridia* (Crustacea, Copepoda), Family Name, METRIDIIDAE.

(2) The genus *Gerris* (Insecta, Hemiptera), Family Name, GERRIDAE ; the genus *Gerres* (Pisces, Acanthopterygii), Family Name, GERRIDAE.

DOCUMENT 3/5

By CURTIS W. SABROSKY

(*of (at the time when the following paper was written) the U.S. Public Health Service, Manning, South Carolina, U.S.A.*)

Extract from an enclosure to a letter dated 14th March 1946

The Correct Names for Families in Zoology*

Family names are among the most widely used of all the technical names for animals or groups of animals. Introductory textbooks are commonly organised on that basis, beginning students learn to classify the subjects of their study by them, and specialists in non-taxonomic fields may recognise few names beyond those of families.

*The principles discussed in the paper apply equally to subfamily names, but the discussion has been centered on families to avoid the cumbersome phrase " family and subfamily names." Further, because of the large number of names referred to, almost all references have been placed at the end of the paper in order not to interrupt the continuity of the discussion. Aside from the citation of their dates, references for generic names have not been given because in the light of *Opinions* 133 and 141 they are not essential to the arguments in this paper. [*Ed.*—The bibliographical references referred to by Dr. Sabrosky have not been reproduced here.]

Nowhere is the above more true than in entomology, because of the vast numbers of genera and species involved. Whereas the ornithologist, for example, can recognise and give both generic and specific, and perhaps even subspecific, names for the birds in his region, the taxonomic entomologist often does well to know a reasonable proportion of the family names of the insects of his area, outside of the common genera and species and those of his own particular speciality. The economic entomologist will recognise species of economic importance, but beyond that will rely mainly on group names for the various forms that he meets.

Many family names, particularly in entomology, have become quite generally used and understood as common names, not only by taxonomists, but also by biologists, general zoologists, science teachers, etc. Such names as tabanids, tipulids, and sarcophagids have become nearly as well known as their counterparts of horseflies, crane flies, and flesh flies. In some cases, such as the parasitic flies of the family TACHINIDAE, there exists no common name for the group other than that founded upon the family name itself. In other cases, it is convenient to use a common name based on the family name, such as the noctuid moths or NOCTUIDAE (cutworms, stalk borers, earworms, etc., now known as the PHALAENIDAE), either because of the diversity of common names for groups of species within the family, or because the common names apply to larval forms and not to adults.

Obviously, therefore, the changing of family names may have more extended repercussions than the changing of generic or specific names. No matter how vehemently specialists may argue for or against changes in names, they will have to admit that, because of their specialised knowledge and training, no change will be likely to cause them more than temporary annoyance or occasional slips in their book-keeping. However, to specialists in other fields of biology, to students of other sciences, and to non-technical workers, the changing of familiar and long-recognised names, and the continued use of conflicting names by different specialists, contribute not only to confusion, but to a low regard in some quarters for both taxonomy and nomenclature. For example, the pictured-winged flies of the family long known as the TRYPETIDAE are commonly called the trypetids, and they are widely known and recognised because of such common species as the cherry fruit flies, the apple maggot or "railroad worm," the Mediterranean fruit fly, the round golden rod fall maker, and many others. Yet the appearance of such names for the family as TRUPANEIDAE, TRYPANEIDAE, EURIBIIDAE, and TEPHRITIDAE, leaves the average reader only bewildered.

Some changes are of course inevitable, such as the necessity of avoiding homonyms in order to prevent the confusion of having identical names in use contemporaneously for two different groups. In many cases, however, we need prompt action by the International Commission on Zoological Nomenclature in order to clarify certain general principles and to bring system into the often confusing terminology of family names.

Articles 4 and 5 of the International Rules of Zoological Nomenclature, simple and direct as they seem, have been the subject of considerable dispute and conflicting interpretations. Some of the doubts about family names have been resolved by *Opinions* 133 and 141, published in 1936 and 1943 by

the International Commission. However, in spite of the clear-cut statement of principles contained in *Opinion* 141, there still remain several points of contention. Even though in some cases the answer may seem obvious, or the probable answer is indicated by the discussion in the above or other *Opinions*, nevertheless a more comprehensive statement of principles by the International Commission would clear up certain difficulties that now exist in the nomenclature of family names, as indicated in the following discussions.

1. Shall a family name, based on an included generic name, have priority and authorship from the date of its first proposal for a super-generic group, whether originally called a family, or stirps, or etc., and regardless of the patronymic ending employed?

The use of " -idae " as a uniform patronymic ending for family names was first advocated by William Kirby in 1813. Although the idea soon found favour in many quarters, it was naturally many years before it was consistently and universally applied. Meanwhile, authors used such terminations as "-ites," "-ides," and "-ina." In many cases, these were called " family " or " subfamily " ; in others, " stirps," " section," " natural order," etc.

Many of our best-known family names date from this period when there was no uniform family patronymic. The critical study of the origins of these names will sometimes reveal that insistence upon the " -idae " ending for determining priority would overthrow long-established names in favour of unknown or obscure ones. In the two-winged flies (Class Insecta, Order Diptera), for example, a number of our familiar family names were apparently first used by Edward Newman (1834), who consistently used the suffix " -ites " to designate his " natural orders " (=modern families) in such combinations as Bibionites, Psychodites, and Chironomites.

In fairness to early taxonomists, who based their super-generic names on included genera, but merely with different endings to designate the groups, it is believed that the question should be answered in the affirmative.

A suggestion to this effect, in the nature of a proposed amendment to the International Rules, was also submitted to the Commission some years ago (Cf. *Science* **68**: 102-104, 1928 ; *Ent. News* **40** : 332, 1929), as was the principle discussed in the third section.

2. When a family name is changed because the name of the type genus is found to be a homonym, must the new family name be founded upon a new generic name replacing the preoccupied one, or upon the next available generic name?

Although it is believed that the answer will favour the first alternative, it would be well to have a clear and unequivocal statement. The continuity of the type concept is important, when a certain generic group is used as the standard of reference for a family. If a preoccupied generic name which is a familiotype (type genus of a family) should be replaced by a name which is not isogenotypic with it, then the new family name might conceivably be based on a group of species which might sometime be recognised as quite

different from the original type genus. We would then find that the family name would pass to the new segregate, and we would be forced again to rename the original and long established genus and the family name founded upon it.

To cite a definite example, a large and common family of picture-winged flies, similar to the trypetid fruit flies in appearance and size, has been well known for years under the name ORTALIDAE. Not until 1932 was it pointed out that the generic name *Ortalis* Fallén (1810) is preoccupied by *Ortalis* Merren (1786) in ornithology. Two authors almost simultaneously proposed new names for the family, OTITIDAE and PLATYSTOMIDAE.* In each case, the name is based on an entirely *different* genus than the original ORTALIDAE, thus changing the family's type standard. The choice of PLATYSTOMIDAE was particularly unfortunate, since it is based on a genus in another subfamily from the original *Ortalis*, and one which is recognised by some authors as a family in its own right.

3. Must a family name be changed when its type genus is found to be a synonym?

There is no question that, in order to avoid possible confusion, a family name must be changed when the name of the type genus upon which it is based is found to be a homonym.

Changing with synonymy is not so convincing. A homonym is forever dead: it was stillborn and cannot be revived; but it is always possible to resurrect and reinstate a synonym. A homonym engenders confusion because it has the same name as some other animal group; a synonym is a distinctive name in itself, but merely superseded by an older name, sometimes only as a matter of opinion. A synonym is always present in the literature on the family, and a family name based on it would always represent the same type concept, regardless of any changes in the prevailing opinion of its status and synonymy. It is not possible to foresee the trends of future revisionary work and the results of the discovery of thousands of new species. Genera may be combined, later separated, perhaps recombined, with refinements in classification, discovery of annectant species, etc. If a family had to be renamed because of synonymy, there might be frequent changes or vacillation in the family name.

Two examples may be cited by way of illustration:—

(*a*) In the order Diptera (Insecta), the Meigen (1800) generic names (which were first brought to the attention of dipterists by Hendel in 1908) under the Rules supplant the well-known and century-old names of Meigen (1803) for many common genera that gave their names to large and cosmopolitan families. Assuming for present discussion that the 1803 generic names must be changed (which is opposed by some workers), why should we necessarily have to change the familiar CHIRONOMIDAE to TENDIPEDIDAE, or TACHINIDAE to LARVAEVORIDAE, for example?

(*b*) The so-called false crane flies were known for years under the family name RHYPHIDAE, based on *Rhyphus* Latreille (1804). Not until the early 20th century did authors change to ANISOPIDAE (or ANISOPODIDAE) based on

*Based on *Otites* Latreille, 1804, and *Platystoma* Meigen, 1803.

Anisopus Meigen (1803) with *Rhyphus* as synonym. Following Hendel (1908), however, some workers changed to PHRYNEIDAE, based on *Phryne* Meigen (1800) (=*Anisopus* Meigen, 1803). For the next few decades, dipterists were divided on the use of the 1800 names, and both PHRYNEIDAE and ANISOPODIDAE existed in the literature. Finally, as a crowning touch, careful research into the place of the 1800 names in the taxonomic structure (Stone, 1941) revealed that both *Phryne* and *Anisopus* were synonyms of the still older but hitherto overlooked *Sylvicola* Harris (1776). Thus the family name can once more be changed, to SYLVICOLIDAE, which incidentally is a name once used in ornithology for the American wood warblers. How much senseless change would have been avoided, through the years of changing synonymy, by the continued use of the original name, RHYPHIDAE !

4. Is a family name to be rejected as a homonym of another family name?

It is possible that each case might have to be considered on its own merits, but the statement of a general principle should help in many situations. Two problems will illustrate different ways in which family homonyms may arise.

(*a*) In the preceding section, the family of the false crane flies was found to have had four different family names as a result of successive changes in the recognised synonymy of the type genus. Although the name SYLVICOLIDAE has not yet been noticed in the literature, it is the logical step if the nomenclature of family names continues as it has in the past. However, the name SYLVICOLIDAE has already been used in ornithology for the American wood warblers, although later abandoned when its type genus (*Sylvicola* Swainson, 1827) was found to be a homonym. Does this existence of a previous though now unused SYLVICOLIDAE preoccupy the use of the name ?

(*b*) Are identical family names, which are based on similar but not identical (and therefore not strictly homonymous) generic names, to be considered homonyms ?

For example, in the " Statement of the Case " in *Opinion* 153 (p. 199) it was pointed out that a situation appeared to require the use of the name PSILIDAE for a family of bethylid wasps, based on *Psilus* Jurine (1801). Fortunately, with the suppression of the " Erlangen List," the name *Psilus* ceased to be available, for otherwise we might have had a family PSILIDAE in the Hymenoptera, based on *Psilus* Jurine (1801), and the identical name PSILIDAE in the Diptera, based on the valid and distinct name *Psila* Meigen (1803). As a similar situation, there is a family name LARIDAE both in Aves and in the Insecta (Coleoptera), based respectively on *Larus* Linnaeus and *Lara* Leconte.[3] What shall be done with family names based on valid generic names which differ only by ending in -us and -a, where the family names derived from the stem of the name of the type genus are inevitably identical ?

[3]I am indebted to Dr. E. Gorton Linsley for calling my attention to the case of LARIDAE, and also to the fact that family names with a similar sound but different forms are LARRIDAE in the Hymenoptera (from *Larra* Fabricius), and LARIIDAE in Coleoptera (from *Laria* Scopoli). The last two names undoubtedly are sufficiently distinct, for we have the example set by the International Commission in *Opinion* 140, in which official sanction was given to the names MEROPIDAE and MEROPEIDAE, respectively based on *Merops* Linnaeus and *Merope* Newman.

5. What spelling is to be considered proper and official in the case of certain kinds of family names that have appeared in both short and long forms?

A few examples from the Diptera will suffice :—

ACROCERIDAE or ACROCERATIDAE — EMPIDAE or EMPIDIDAE
TRICHOCERIDAE or TRICHOCERATIDAE — DOLICHOPIDAE or DOLICHOPODIDAE

Inasmuch as *Opinion* 36 (p. 85) called attention to a change from DIOXOCERIDAE to DIOZOCERATIDAE, it is to be presumed that the longer form, based on the full stem of the name of the type genus, is the proper and correct spelling under Article 4 of the Code. It would promote uniformity, however, if the Commission would review the interpretation of the stem of the names of type genera where the proper combining form is not apparent in the generic name itself (as in *Acrocera*, *Empiz*, *Dolichopus*, *Termes*, *Leptocerus*, etc.).

An " Official List of Family Names in Zoology "

A statement of general principles from the International Commission would aid in solving many problems in the nomenclature of family names. Even beyond this, however, it is believed that the preparation of an Official List of such names would do much to promote stability and uniformity in the terminology of these widely used names.

In addition to a request for the statement on general principles, therefore, it is proposed that the International Commission on Zoological Nomenclature, with the aid of special committees of specialists on the various groups of animals, undertake the preparation of an " Official List of Family Names in Zoology." When cases are discovered that appear to warrant Suspension of the Rules in order to prevent greater confusion than uniformity, these can then be promptly submitted to the Commission for action.

The idea is by no means new, though not previously proposed as an " Official List." At the Fourth International Congress of Entomology (Ithaca, N.Y.) in 1929, in the discussion of a paper by Dr. A. L. Melander, Dr. Karl Jordan expressed the view that family names should be stabilised by means of a list of " nomina familiarum conservanda " prepared by a committee for each large order.

Undoubtedly, the difficult cases in family names would eventually be discovered and settled in due course. Rather than wait for the haphazard discovery of problems and the slow accumulation of approved names, however, it is believed that more good would result from the active research and preparation of a comprehensive list that would be a contribution to stability and an orderly nomenclature.

DOCUMENT 3/6

By L. W. GRENSTED, D.D.
(*Oriel College, Oxford University*)

Enclosure to a letter dated 5th October 1947

EDITORIAL NOTE.—The following paper was published in June 1947 in *Ent. mon. Mag.* **83** : 137-141.

On the formation of Family Names

If we are ever to reach security and uniformity in nomenclature it is absolutely necessary, first, that the *Opinions* of the International Commission.

when issued, should be accepted and followed without question, second, that where the Rules upon which those *Opinions* are based are inadequate it should be open to the Commission to re-interpret or to revise them, and, third, that the procedure of the Commission should be such as to inspire confidence in its learning and scientific integrity, as well as in its administrative efficiency and its ability to settle disputed problems with reasonable speed. In what follows I am going to argue that the decision given in *Opinion* 143, establishing the family name TINGIDAE as correct, has implications which are far-reaching and which, if accepted, will greatly simplify one of the more awkward problems as to the formation of such names. I propose, in fact, to treat the *Opinion* in legal fashion, as providing us with case law, fixing the interpretation of Article 3 of the International Rules, and thereby enabling us to determine the meaning and application of Article 4. The argument applies more especially to generic names with alleged i-stems, but it may appear in the end that it has a wider application. If in what follows I seem to suggest some criticism of the work of the Commission, it is not with any desire to undermine confidence in its findings, and certainly not without recognition of the great practical difficulties under which its work is carried on. Entomologists everywhere are under a very great debt to the Commission, and to its Secretary, Mr. Hemming, in particular. It is in the hope that discussion of its work may help to speed the plough that I have written what follows.

It will be convenient to have before us the two relevant Articles of the Rules :—

Article 3.—The scientific names of animals must be words which are either Latin or Latinized, or considered and treated as such in case they are not of classic origin.

Article 4.—The name of a family is formed by adding the ending *idae*, the name of a subfamily by adding *inae*, to the stem of the name of its type genus.

It will be noticed that Article 3 does not determine what is meant by Latin, which, as a living and changing language, has a history of more than two thousand years, though it certainly suggests that what is commonly called " classical " Latin is the norm. But it does lay down quite clearly that such names as *Empis* or *Anthocoris*, however Greek their origin, are to be " considered and treated " as Latin. And this certainly applies when they are being used as the basis for the formation of family names.

So much by way of Preface.

Opinion 143 of the Commission on Zoological Nomenclature reads as follows :—

On the Method of forming the Family Name for *Tingis* Fabricius, 1803 (Insecta, Hemiptera)

SUMMARY.—The family name for *Tingis* Fabricius, 1803 (*Syst. Rhyng.* : 124) in the Hemiptera is TINGIDAE.

The case submitted by Dr. A. C. Baker in January 1923 is set out in these terms :

TINGITIDAE, TINGIDAE or TINGIIDAE

Dr. W. J. Holland (1922, *Science* **56** : 334-5) contends that Fabricius intended to use the word *Tinge*, the Latin equivalent of the Greek word *Τίγγις*, of which the stem is Tingit. He therefore makes the family name TINGITIDAE!

Dr. H. M. Parshley (1922, *Science* **56** : 449) contends that Fabricius coined the word *Tingis* and did not base it on the Greek word *Τίγγις*, and following the genitive used by Fabricius he makes the word an i-stem and writes the family name TINGIDAE.

Dr. Baker (1922, *Science* **56** : 603) contends that Fabricius introduced into the Latin language the Greek word *Τίγγις*, and since an i-stem in Greek made it an i-stem in Latin, following Article 4 strictly, he writes the family name TINGIIDAE.

Dr. Holland (1922, *Science* **56** : 535-6) replies to Dr. Parshley objecting to his stand.

Dr. Parshley (1922, *Science* **56** : 754) accepts Dr. Baker's conclusion about the origin of the word, but objects to the application of Article 4. He claims that Dr. Baker introduced this use in such cases.

Dr. Baker informs you of the fact that the word mentioned by Dr. Parshley, APHIIDAE, has been in the literature for ten years. so that others have followed Article 4 in such cases.

Shall Article 4 be followed ?

This was submitted to the International Committee on Entomological Nomenclature, which, at Paris in 1932, passed the following resolution :—

TINGIDAE *versus* TINGITIDAE *et* TINGIIDAE

Tingis étant un nom latin dont le génitif est *Tingis* et l'accusatif *Tingim*, TINGIDAE est la forme correcte de nom de la famille.

This resolution was confirmed by the International Commission on Zoological Nomenclature at Lisbon in 1935, and the *Opinion*, as above, published in 1943.

For our purpose the above citations from the *Opinion* will suffice, the remainder being merely the indication (at no little length) of the authority under which it is issued.

A first comment must be that it was nine years before Dr. Baker's case was considered at all, three more before the confirmation, and twenty in all before the *Opinion* upon it was published. It is certainly better to be slow than to be wrong, but this is a speed which, since zoologists must use *some* nomenclature, can only mean the establishment of wrong names during the period while the right ones are emerging.

The second comment is that the only defence of the *Opinion*, since it rejects Dr. Baker's view, is contained in the Resolution, and that, to an ordinary classical scholar, every single statement in that Resolution is wrong. For (*a*) the Latin word is not *Tingis* but *Tinge* or *Tingi* : (*b*) its declension is

unknown ; (*c*) if its genitive were *Tingis* and its accusative *Tingim*, it would certainly be a third declension noun, i.e. an i-stem ; (*d*) and in that case the application of Article 4 would necessarily give TINGIIDAE as the family name.

Nevertheless, curiously enough, I think that the *Opinion* in favour of TINGIDAE is right, and that it can be adequately defended. But the consequences of that defence must be a more careful statement of Article 3 and a full interpretation (or a re-writing) of Article 4. If, as I suggest, we can treat *Opinion* 143 as case-law, both these things will become possible.

A short discussion of Dr. Baker's case, as quoted above, will clear the ground. A discussion of this kind ought, of course, to have been included in the *Opinion*. For full details I must refer readers to the five articles cited.

In the first place we note that Dr. Baker's summaries are not wholly accurate and are in one case, his own article, so ungrammatical as to be obscure at a crucial point. Further, in his summary of Dr. Parshley's second paper he completely omits matter which probably influenced the International Committee more than anything else in making its decision, since at this point he had taken the opinion of eminent classical scholars, though he had not, in fact, put the problem before them sufficiently fully. It is really their answer that is embodied in the Resolution and *Opinion*. But, as Dr. Baker urges, their answer does not conform to the requirements of Article 4. It may be noted that the International Committee makes no reply to Dr. Baker's question " Shall Article 4 be followed ? " and that they do not in fact follow it.

The basic fact is that Fabricius, 1803, *Syst. Rhyng.* : 124, erects the name *Tingis* and, in a footnote, uses the genitive *Tingis*. I can find no evidence for the alleged accusative *Tingim* cited in the Resolution. If it exists it would strengthen Dr. Baker's argument, as against the *Opinion*, to some small extent. But the genitive *Tingis* is sufficient in itself to establish the stem *Tingi-*, as opposed to *Tingid-* (cf. *Empid-*) or Holland's suggestion *Tingit-*. *Tingis* is clearly the Latinized Greek form of the North African (Berber ?) name given on coins as Tenga, Tinga, Tetga (Pauly-Wissowa, *Real-Encyclopädie*, **6** : 2517), and in the Latin geographers (Pliny, *Historia Naturalis* V. 1. 1 ; Pomponius Mela, I. 1. 4) as Tinge or Tingi. The place, the modern Tangiers, gave its name to the district known as *Tingitana* (Pliny, *loc. cit.*), but this does not, as Holland suggested, establish a stem *Tingit-*, any more than *Neapolitana* establishes a stem *Neapolit-* for *Neapolis*, which makes its genitive simply *Neapolis*. But Holland is right in saying that Fabricius is using the place-name Tingis in its Latinized Greek form and not just inventing a new Latin word, for Fabricius gave the preceding genus the name of *Syrtis*, the famous sandbank off the North African coast, not far from Tingi. The name in Greek is found in Strabo (I. 3. 1 (with genitive,-ιος), III, 1. 8 ; Ptolemaeus, IV, 1. 5 ; Dio Cassius, XLVIII, 45 ; Stephanus Byzantius, 655).

Thus Parshley's first contention is wrong, and Baker's main contention is right, though his further argument that an i-stem in Greek makes an i-stem in Latin, true up to a point, needs, as we shall see, much consideration.

Parshley's final contribution is more important, and Baker does not do it justice. It is true that Parshley accepts the evidence as to the origin of

the name, but he makes the important remark that " Fabricius did not adopt the word, rather he introduced into the neo-Latin language the word *Tingis*, genitive *Tingis*, stem *Tingi-*." This distinction of neo-Latin from Latin is of far-reaching importance in the whole discussion. He then goes on to point out that the classical mode of forming patronymics from i-stems always proceeded by the elision of the redundant i, " and indeed who ever heard of such terms as Apiidae, Aphiidae, Feliidae, or Caniidae." He then cites eminent classical authorities, Mr. H. Pennypacker and Prof. C. H. Moore, as follows :—

" Rules regarding the formation of family names which may be described as patronymics are subject to modification not only in the interest of convenience, but also of euphony, and in spite of the fact that the stems of the nouns you mention [*Nabis*, *Apis*, *Tingis*, *Coris*, *Aphis*] in Latin end in ' i,' and that the termination -idae is conventional in such cases there seems to be no doubt that the spelling with a single ' i ' carries universal authority and the penultimate ' i ' is short in quantity."

It is, of course, true that zoological family names are intended to be formed as patronymics, but they are, nevertheless, something else, scientific terms in " neo-Latin," with a precise purpose. Dr. Baker's case, to which the Resolution and *Opinion* make no reply, is that Article 4 precludes us from following the classical usage correctly stated in Dr. Parshley's article, and that we must stand by the letter of the law and not say, as Parshley does, that " the authors of the International Code, of course, were fully conversant with this principle, and expected it to be applied in connection with Article 4, as it had been in the past," since they were, in fact, " educated men, and their own works contain no such monstrosities as Feliidae or Anguiidae."

The *Opinion*, without intelligible argument, supports Dr. Parshley. But if it is correct, as I think it is, it is on grounds other than those stated or implied, and it involves the admission that Article 3 is not clear and that Article 4 completely fails to state its own intention.

Article 3 is the easier case. Where it fails is in its tacit assumption that classical Latin is the only Latin which need be taken into account and that all the complicated multitude of amorphous generic names can be " considered and treated as such." In the formation of family and sub-family names this is certainly not the case, as we shall see, and other difficulties arise of various kinds, especially in the establishment of genders. It is highly desirable that the International Commission should attach a note to the Article in the following terms :—

" It should be noted that Latin as used for scientific purposes, and especially as used at the end of the eighteenth century, is a living language not agreeing in all respects with the Latin commonly called classical. While classical Latin is necessarily the standard to which scientific terms should conform, that standard must not be so applied as to override considerations of scientific accuracy, uniformity, intelligibility, and practical usefulness."

The importance of some such note will appear in what follows.

Article 4 suffers from a radical defect. It does not define what is meant by the stem of a word. As a result we note, first, that it has never been applied at all in a large number of cases and, second, that it cannot be applied to many of them without absurd results. An example or two will make this immediately obvious. The stems of Latin nouns end with the five vowels of the five declensions, except in some cases, often derived from the Greek, where a consonant, implicit in the nominative, appears in the genitive. Thus the stem of *Plusia* is *Plusia-*, of *Gryllus Gryllo-*, of *Apis Api-*, of *Empis Empid-*. By applying Article 4 literally we get PLUSIAIDAE, GRYLLOIDAE, APIIDAE and EMPIDIDAE, the last alone being euphonious and reasonable.

To interpret the Article in this way would make hay of our nomenclature, and nobody has even attempted to do it, except in the case of certain i-stems. Words such as TINGIIDAE are obviously not too shapeless to use, and Dr. Baker and others have pressed us in that direction. But if we agree we have got to admit the dreadful PLUSIAIDAE and, worse still, CECIDOMYIAIDAE, ANTHOMYIAIDAE and their kind. I think that there will be general consent that that cannot be done.

That leaves two alternatives.

First, we can form our family and subfamily names exactly as though they were Latin patronymics of the classical period. That would give clear and easily pronounced forms. The rules are (1) that a-stems form *-adae*, e.g. PLUSIADAE, CECIDOMYIADAE ; (2) that other vowel stems form *-idae*, e.g. GRYLLIDAE, APIDAE, TINGIDAE ; (3) that stems ending in a consonant add *-idae*, e.g. EMPIDIDAE, DOLICHOPODIDAE. This is the principle which has in fact been more or less operative throughout the whole period during which zoologists have been struggling with this particular problem. It would have been perfectly clear if Article 4 had not introduced the grammatical term "stem," which is barely intelligible except to classical specialists, working on the theoretical hypotheses of grammar and philology. It is the principle presupposed in Parshley's argument, though he did not work it out to its conclusion, or realise that it would mean introducing forms in *-adae*. Some writers, such as Meyrick, e.g. 1927, *Insects of Samoa*, **3**, fasc. 2 (Microlepidoptera), with E. E. Austen's note on p. 76, have frankly abandoned Article 4, and used such orthodox classical forms as GELECHIADAE, PLUSIADAE. But this solution has one great difficulty. There are very many generic names, such as *Notodonta*, *Ephydra*, which do not fall readily into the classical scheme, being of modern and often of obscure origin. And it has also the practical disadvantage of destroying the present uniformity of usage whereby *-idae* is the universal mark of a family name.

It was probably a not very clearly thought out argument on these lines which underlay *Opinion* 143 and the Resolution cited above.

But, second, another alternative is possible, and, I believe, necessary. We can retain the general use of *-idae* and *-inae*, and also retain Article 4 in its present form, if we re-define the word "stem," using it not in the grammatical sense, with reference to classical Latin, but in a practical sense,

applicable to scientific Latin, the neo-Latin of Parshley's article. This could be secured by a note attached to the Article in the following terms :—

" For the purposes of Article 4 the term ' stem ' is to be taken to mean either the grammatical and classical stem or such part of it as will make wholly clear the relation between the generic name and the name of the family or subfamily, and will at the same time give the family or subfamily name the simplest and most euphonious form compatible with that relationship. The stem, in this sense, will normally be found by putting the generic name into the genitive case and then cutting off the termination, -ae, -i, -is, or -us, according to the ordinary rules of Latin declension."

Such a note would in practice be found perfectly clear and easily applied. It would give a consistent usage, and, which is important, one in all essentials in agreement with the usage most commonly employed today. Thus forms like *Plusia* and *Cecidomyia* would give PLUSIIDAE and CECIDOMYIIDAE ; *Gryllus*, GRYLLIDAE ; *Tingis* and *Anthocoris*, TINGIDAE and ANTHOCORIDAE ; *Empis*, EMPIDIDAE. And there need be no qualms about this on the part of classical scholars, since it is not with classical Latin, but with scientific or neo-Latin that we are dealing. Difficult forms like *Notodonta*, for which it is hardly possible to determine a genitive (or a gender) could be dealt with out of hand, giving NOTODONTIDAE, as at present.

In two cases I think that a formal *Opinion* would be desirable.

(1) *Cis*. Here the root is *Ci-*, the i being long. But CIIDAE is neither clear in its relation to *Cis* nor euphonious, and the obvious family name should be CISIDAE (Grensted, 1940, *Ent. mon. Mag.*, **76** : 145-6).

(2) *Aphis*. Here an *Opinion* should decide between APHIDAE and APHIDIDAE, either of which is equally tenable. Personally I prefer APHIDAE (Grensted, 1946, *Ent. mon. Mag.*, **82** : 246-7).

It is the great service of *Opinion* 143 that, treated as case-law, it can be regarded as a ruling which, coupled with Article 4, renders this general solution practically inevitable. I have no doubt that the notes suggested above embody the principles by which the International Committee, consciously or unconsciously, was guided, and I hope that *Opinions* on these lines may be promulgated as soon as possible. They would solve quite a number of our problems at a stroke.

DOCUMENT 3/7

By JESUS MOURE, C.M.F.
(*do Museu Paranaense e Universidade do Parana*)
and L. TRAVASSOS FILHO
(*do Departamento de Zoologia de Sao Paolo*)

Notas sobre a Nomenclatura dos Grupos Superiores a Generos

(Published in November 1947 in *Museu Paranaense*, Publicacoes Avulsas No. **4** : 1-19)

EDITORIAL NOTE.—The following document is the Summary annexed by the authors to their paper.

Summary

Basic principles to render uniform the nomenclature of groups above genera.*

(1) The suffixes that designate Super-families, Families, Sub-families, Tribes and Sub-tribes are, respectively : **oidea, idae, inae, ini, ina.**

(2) In order to add these suffixes to Latin (or Latinized) or Greek words, the rules of these languages must be obeyed, both for the investigation of the stems and for the combination of the vowels.

(3) Undeclinable nouns, or nouns belonging to other languages, and not Latinized, are to be considered as absolute stems. Suffixes must then be added without any alteration.

The second principle will here be more amply discussed, in order to render easier the task of the non-initiated in the Latin and Greek languages.

(a) Latin or Latinized Words

The following words are to be considered here :—

Latin (v.g. : **Musca**) ;

Greek, when used in Latin (v.g. : **Buprestis** < βούπρηστις) ;

Latinized Greek words (v.g. : **Leptocerus** < Λεπτο + κερας) ;

Latinized words of other languages (v.g. : **Knowiella** > *Know*).

After the stems are found, the designations of families, etc., are formed according to the following rules :—

(1) The stems of the 1st, 2nd, 4th and 5th Latin declensions are respectively a, o, u and e. The ending must be taken from the genitive, as found in dictionaries, the thematic vowel being then added. In the third declension the stems may end in consonants or vowels (i or u), and to form them it is only necessary to take the desinence from the genitive.

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*The authors are much indebted to Dr. F. Lane and R. L. Araujo for their help in the preparation of the English summary.

(2) The suffixes that designate families, sub-families, etc., eliminate the last thematic vowel (excepting u in the third declension), taking its place, or are added immediately to the stems ending in a consonant, or u, of the third declension.

Examples : *Musca* < Muscae < Musca < Musc < **Muscidae**

Culex < Culicis < Culic < **Culicidae**

Sus < Suis < Su < **Suidae**

(b) Greek Words

We consider as such the words that keep their genuine Greek desinence in the nominative, and not used in Latin.

The following rules, notwithstanding their being a little more involved, are easily applicable :—

(1st) The nouns belonging to the 1st and 2nd declensions have the stem a or o (α or ο), and drop this last vowel before receiving the suffixes **idae, inae,** etc.

Example : *Cecidomyia* < Cecidomyi < **Cecidomyiidae.**

(2nd) The stem of the words belonging to the 3rd declension are to be obtained from the genitive as found in dictionaries. The following remarks should be kept in mind :—

(a) Genitive ος

Preceded by consonant or ω it is sufficient to take off the desinence, in order to obtain the stem.

Example : **Schistosoma** < Schistosomatos < *Schistosomat.*

Preceded by α, ο or υ the ος desinence is taken off, and a digamma (F) is added in order that the stem may be obtained.

Example : *Echimys* < Echimyos < Echimy (F).

(b) Genitive ως

When not preceded by ε, is usually a contracted noun, or a jomic form. Dictionaries always give in first place the normal form, which should be used.

When preceded by ε, the following cases are to be considered, according to the nominatives :—

(1) Nominative υς, stem α (F).

Example : νεως (ναῦς)=na (F).

(2) Nominative ευς, ὑς or ὗ, stem ε (F).

Example : φονέως (φονεύς)=phone (F).

(3) Nominative ις or ι, stem ε.

Example : Μάντεως (μάντις)=Mante (j) (=Manti).

(c) Genitive ους

Nominative ες, ης or ος stem ε (σ).

Example : σαφούς (nom. σαφες) σαφε (σ)=saphe(s).

Nominative ως stem ο (σ).

Example : αιδούς (nom. ἀ'ιδως) αιδο (σ)=aedo(s).

Nominative ω, stem ο (j).

Example : πειθούς (nom. πειθώ) πειθο (j)=pitho (j).

(3rd) After the stem is obtained, according to the second rule, the following rules should be obeyed :—

The stems ending in a consonant or in ω receive the suffixes without any alteration.

Example : **Phaenomeris** (φαινομερις) < Phaemonerid < **Phaenomeridae.**

The stems ending in α (F), ο (F) and υ (F) drop the digamma (F) and receive the suffix without any other alteration.

Example : **Echimys** ('Εκιμύς) < Echimyos < Echimy (F) < **Echimyidae.**

The stems ending in α (F), ε (σ), ο (σ), ε (j), ο (j) drop this assemblage, before receiving the suffixes.

Example : **Coelioxys** (Κοιλιοξυς) < Coelioxeos < Coelioxe (F) < **Coelioxinae.**

NOTE : The authors have very serious doubts with regard to certain generic names of Greek origin, of a definitely adjectival character, but with the incorrect ending is. These nouns are in existence in Greek, but have a different meaning as, for instance, **Eucnemis** ('Ευκνήμις) that should normally be **Eucnemos** ('Ευκνήμος). In accordance with Brues & Melander we prefer to interpret these irregular formations as Latin adjectives of the 3rd declension. Thence **Eucnemidae,** instead of **Eucnemididae,** because 'Ευκνήμις—ιδος means he who has good leggings, while **Eucnemos** (Εὔκνημος) means he who has good legs. The same applies to **Megalostomis** (Μεγαλοστομις, of irregular adjectival form), which should give origin to **Megalostominae** because Στομίς—ὶδος means the part of the horse-bit that is put into the horse's mouth. This meaning does not surely apply to the genus erected by Lacordaire for a group of the **Clytridae.**

DOCUMENT 3/8

Comment on Dr. Harold Manter's Application Relating to the Family Name Properly Applicable to the Genus " Dissotrema " Goto & Matsudaira, 1918 (Nematoda)

By the late LODOVICO DI CAPORIACCO
(*University of Parma, Italy*)

Extract from an enclosure to a letter dated 31st December 1947

As in the case raised by Dr. Manter,* the Family in question was first established for the genus *Dissotrema*, it is clear to me that that genus must remain the type genus of that Family. No one has the right to change it. If the name *Dissotrema* is an identical junior synonym of *Gyliauchen*—that

*See Document 3/3.

is, if the two genera have the same type species—then, of course, the name of the Family must be changed from DISSOTREMATIDAE to GYLIAUCHENIDAE. But the name of the Family ought not to be changed to OPISTHOLEBETIDAE, if the genus *Dissotrema* (or *Gyliauchen*) is placed in the same Family as *Opistholebes*, for that would involve changing the type genus of the Family.

DOCUMENT 3/9

Professor Jeannel's Proposal for the Introduction of a New Termination for Names Denoting Tribes

Note by the Secretary

Attention is drawn to a paper entitled " Sur la Nomenclature des groupements supergénériques " which was submitted to the International Commission on Zoological Nomenclature by Professor R. Jeannel in connection with its meeting held in Paris in July 1948. This paper has already been published in the *Bulletin* (1950, *Bull. zool. Nomencl.* **3** : 164-165), to which readers are referred.

It will be seen that the following points are made in the foregoing paper :—

(1) It is illogical to employ a feminine termination "—INAE " for the names of sub-families and the masculine termination "—INI " of the same word for the names of tribes. M. Jeannel therefore proposed that for the names of sub-families the feminine termination "—INAE " should be replaced by the masculine termination "—ITAE ".

(2) On the question of the priority to be assigned to the names of supergeneric groups, M. Jeannel expressed the following view :—

> La priorité appartient non pas au nom formé avec le radical du genre le plus anciennement décrit, mais bien au nom le plus anciennement proposé pour désigner le groupement, à la condition, bien entendu, que ce nom soit formé avec le radical de celui d'un genre faisant partie de groupement et actuellement valable. Contrairement au principe énoncé par Bradley (*Science* LXVII, 1928, p. 103), la priorité doit jouer pour les noms supergénériques, *même lorsqu'ils n'ont pas été donnés sous une forme latine plurale*, à la condition qu'ils aient été formés avec le radical du nom d'un genre contenu dans le groupement et actuellement valable. Le contraire eliminerait injustement l'oeuvre des grands entomologistes du début du XIX^{e} siècle, à qui on doit le fondement de la systématique des Insectes (par exemple, Lacordaire pour les Coléoptères).

(3) On the question of the rules to be laid down for the availability of names of supergeneric groups, M. Jeannel expressed the following view :—

> LA LÉGITIMITÉ.—Un nom de genre une fois donné est immuable. Il ne peut pas en être de même pour les noms de groupements supergénériques, qui n'ont rien d'obligatoire, car la constitution de ces groupements est conventionelle et variable.

. . . Le Code pourra dire, par exemple, qu'un nom de groupement supergénérique ayant la priorité pourra être rejeté comme " illégitime," lorsque son adoption entrainerait un désaccord évident entre la diagnose du premier description et celle du groupement tel qu'il doit être défini. Bien entendu, il entrera un élément subjectif dans l'application de ce principe de " légitimité ". Mais qu'on veuille bien remarquer que tout code doit être fait pour être appliqué par un tribunal jugeant selon l'esprit et non selon la lettre.

DOCUMENT 3/10

Note on the statement submitted in 1948 jointly by
Professor E. GORTON LINSLEY and Professor ROBERT L. USINGER

Editorial Note.—Attention is called, for purposes of record, to the fact that notice was given in 1948 of the proposed submission of a joint paper on the family name problem by Professor E. Gorton Linsley and Professor Robert L. Usinger, but that ultimately this paper was not submitted at the meeting of the International Commission on Zoological Nomenclature and of the International Congress of Zoology held in Paris in July of that year, owing to the decision that this whole problem should be subject to a detailed consultation with specialists before the next (Copenhagen) Congress in 1953 (1950, *Bull. zool. Nomencl.* **4** : 273). The above paper is not reproduced here because more recently a much more detailed statement of Professor Usinger's views has been received from Dr. W. I. Follett, Chairman of the Nomenclature Committee of the Society of Systematic Zoology. This later statement constitutes Appendix 1 to Dr. Follett's letter of 23rd July 1952 (Document 3/30, Appendix 1). Professor Linsley is a member of the American Committee on Entomological Nomenclature and, as such, took part in the preparation of the document submitted by that Committee (see Document 3/35).

DOCUMENT 3/11

By HOBART M. SMITH

(*University of Illinois, Department of Zoology, Urbana, Illinois, U.S.A.*)

Letter dated 12th June 1950

Enclosed herewith is a copy of a letter which brings up a point of procedure with regard to the formation of family names. Has any action on this point been requested already of the International Commission ? If not, there certainly is a need for it.

Enclosure to Professor Hobart M. Smith's Letter

Letter dated 12th June 1950 from Professor Hobart M. Smith to Dr. Ernest Williams, The Biological Laboratories, Harvard University, Cambridge, Massachusetts, U.S.A.

To perhaps carry an academic matter into the ground, I would like to pass on a viewpoint which at least merits consideration with regard to family names and the stems from which they were formed. Gradually I have been coming to the opinion that one should not form family names by use of stems obtained in the manner dictated by the language from which the name was derived. If the name happens to be obtained from some obscure language, obvious difficulties are courted thereby. Furthermore, in effecting the stem, one may duplicate another name, as for example was done in the case of *Emys* and *Emyda*.

I know that a large school advocates classical formation of stems for family endings, but in view of the certain confusion that this procedure occasions, I favour addition of the family name ending to a stem as nearly identical with the actual generic name as is phonetically possible. The International Commission has not apparently made a definite decision on this matter, although I hope that it will do so eventually.

DOCUMENT 3/12

Views of the late K. W. DAMMERMAN

(*Rijksmuseum van Natuurlijke Historie, Leiden, The Netherlands*)

Attention is drawn to the paper entitled " Proposals concerning the nomenclature of family names and of names of economically important insects " submitted to the International Commission on Zoological Nomenclature by the late Dr. K. W. DAMMERMAN (through Professor H. Boschma) in August 1951.

The above paper was prepared for consideration in the first instance by the Ninth International Congress of Entomology at its meeting held at Amsterdam in August 1951.

In view of the fact that the proposals in the foregoing paper have as their main object the promotion of stability in zoological nomenclature, it has been published as DOCUMENT 1/14 in the section of the present volume (pp. 21-22) concerned with the stability problem.

DOCUMENT 3/13

Information furnished by LEONARD P. SCHULTZ
(*Smithsonian Institution, Washington, D.C., U.S.A.*)

Attention is drawn to the paper enclosed by Dr. Leonard P. Schultz under cover of a letter dated 26th September 1951 (which is reproduced in the Ordinal Names series*), since, although it is concerned mainly with the problem of Ordinal Names, it deals also with the problems involved in the naming of Tribes and Superfamilies.

DOCUMENT 3/14

By P. C. SYLVESTER-BRADLEY, B.Sc.
(*University of Sheffield, Department of Geology, Sheffield*)

Statement dated 18th March 1952

The Terminations to be Adopted in the Formation of Superfamily Names

The terminations " -ACEA " and " -ACEAE " have been widely used in the formation of superfamily names of some groups. In the Ostracoda the former termination is in current use among palaeontologists and in the *Zoological Record*, and to change it to " -OIDEA " would lead only to instability of nomenclature. I would make the following proposals :—

(1) Certain cited alternative terminations should be regarded as permissible in the formation of superfamily names.

(2) It should be prescribed that all superfamilies of one Order must be terminated in the same way.

(3) The choice of termination for the superfamilies of a particular Order should be restricted by a ruling of priority.

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*See Document 4/6.

DOCUMENT 3/15

By L. B. HOLTHUIS

(*Rijksmuseum van Natuurlijke Historie, Leiden, The Netherlands*)

Letter dated 15th April 1952

I agree with the larger part of the suggestions in your paper (1952, *Bull. zool. Nomencl.* **7** : 61-94) concerning the proposed clarification, amendment and expansion of the provisions in the *Règles* relating to the formation of family names. On two points, however, I should like to make some remarks.

(1) Your paragraph **15**, p. 74. I do not quite agree with your suggestion put forward in this paragraph. To me it seems highly desirable that when the name of the type genus of a family is found to be a subjective junior synonym of an older generic name and thus has to be changed, the family name should automatically be changed also. In the example given by you the family name A-idae in my opinion should be automatically replaced by the name " D-IDAE." In my opinion, it is extremely unpleasant that the generic name on which a family name is based is not used for any genus in that family. Furthermore it will be more easy for zoologists not to have different rules in this case for objective and subjective synonyms. In the very rare cases that the rejection of the invalid family name would cause much confusion, a suspension by the Commission could be asked. As I have already stated before, it seems to me of the highest importance to keep the *Règles* as simple as possible.

(2) Your paragraph **18**, p. 77. I do not quite understand your clause that the status of competing family names be determined by reference to the relative dates on which the various type species concerned severally became the type species of the type genera of the families in question. My problem is best illustrated by the following example :—

(1) In 1830 a family " A-IDAE " is erected with the type genus *A-us*. (2) In 1850 the generic name *A-us* is found to be invalid and is replaced by the subjective synonym *B-us*. (3) In 1880 the family name " B-IDAE " is proposed to replace " C-IDAE." (4) In 1870, however, the genus *C-us*, which generally is considered to belong in the family " A-IDAE," was made the type of the family " C-IDAE." Your suggestion is, I believe, that the generic family name " B-IDAE," though it actually is junior to " C-IDAE," should take precedence over the latter name, since it has been proposed to replace the family name " A-IDAE," which is older than " C-IDAE." Or in other words that family names are to be regarded to date from the moment that their type genus (as fixed by its type species) became the type of a family, regardless of the name of the family and the genus at that time. I cannot see the importance of the date on which the type species of the type genus of the family in question became the type species of that genus. Should this mean that if the type species for the genus *C-us* was selected in 1870, while that of *A-us* and *B-us* was not selected before 1875, that the family name " C-IDAE " should take precedence over " B-IDAE " ? I know that this cannot be your meaning and that I thus incorrectly interpret your words, but I am afraid that many others, especially those who do not live in an English-speaking country, might have the same trouble.

Furthermore I wonder whether a strict application of the priority rule here would not be more practical than the rather complicated method discussed above, the more so since the Commission can use its plenary powers if the changes will cause too much confusion.

DOCUMENT 3/16

By D. K. McE. KEVAN

(*School of Agriculture, Zoology Section, University of Nottingham, Sutton Bonington, Loughborough, England*)

Enclosure to a letter dated 29th April 1952

Comments on the Problems Involved in the Regulation of the Names of Families Discussed in Part 3 of Volume 7 of the "Bulletin of Zoological Nomenclature"

Para. **7**

It is my opinion that the formation of family names should be liable for correction until such time as they actually appear on an *Official List of Family Names*.

Para. **8**

I am not especially keen on the stabilisation of incorrectly formed family names merely because they have not been corrected prior to a given date. The lack of correction may not be due to a lack of desire for such a correction but solely to neglect of the group in question and the lack of a reviser. It is possible that full family names may mostly have been used sufficiently frequently to determine this, but the position in regard to groups below the rank of family may be more obscure. I therefore repeat what I have said in my comment on para. 7.

Para. **11**

In my opinion, the author of a family name should be free to choose any genus as the type of the family. The type genus should, however, have a designated type species (which could be designated there and then), unless that genus was monotypic at the time of its description. It is suggested that a family name should remain technically invalid until such time as the type species of its type genus has been designated. When this has been done, the family name would automatically be validated as from the date of its original proposal. The reason for this suggestion is to safeguard against any ambiguity arising in the event of the type genus being divided into two or more genera. The provision would only come into force with the new *Règles*, but specialists should be urged to designate type species for genera wherever this has not already been done, especially for the type genera of families, etc.

In choosing the type genus of a family, the oldest included generic name should be selected unless there is good reason to avoid this, but this should be in the form of a " Recommendation " and not a Rule.

A family name should not be valid if the family concerned contains the type genus of an earlier described family. If, however, the two type genera are subsequently separated into different families, it should be possible to use the junior name again for the new family, dating from its original usage. If the junior generic name were transferred to another established family, the family name to be used for that family would depend upon the relative priority of the respective family names. Where a condition of instability might arise, application could be made to the Commission.

Para. **12**

A family name should date from the first use of the word " family " or " subfamily " or its equivalent (even if this word is not of Latin derivation) *or* it should date from the first use of the suffix -id-, -in-, or -it- (whether Latinized or not, e.g. -idae, -inae, -ini, -inos, -iden, -ites). The words " tribe," " sub-tribe," etc., and in fact any other than those specified above, in the absence of the suggested terminations, shall not be deemed valid in the designation of family names except by application to the Commission. I do not favour an arbitrary date before which almost any word signifying a supra-generic unit would be considered as a valid family name and on no account would I support a mere nominative plural of a generic name as having any status as a family name whatever.

Para. **14**

I am in agreement with this. I would suggest that the name and date of the author of the family in its initial form should be given in brackets as the author of the family name in its new form and that the later author who changed the name to its new form and the date should follow this without brackets—or some similar device to indicate how it might be that a junior family name derived, perhaps from a junior genus, may have priority over an apparently senior family name derived from a senior generic name.

Para. **15**

I may be against stability in nomenclature here but I am of the opinion that family names *must* change with any change in the name of the type genus. Family names can only be based on valid generic names. If for *any* reason, the name of the type genus is shown to be invalid, the family name becomes automatically invalid. With improved taxonomy (i.e. subjective treatment) difficulties in the way of stability will gradually be eliminated. Where undue confusion is likely to occur, there is always recourse to the Commission.

Paras. **16–19**

The family name of united families should be that of the oldest valid *family* name (as in 12 above). It should not be determined by the first reviser. The reviser, however should be at liberty (as any other person) to apply to the Commission if it would be confusing in the extreme to follow this course.

Paras. **21–24**

In this instance a change is necessary in my opinion. I do not support any idea that a family name should be allowed to stand for any reason whatever unless it be based on the valid name of the type genus. Orderly nomenclature has a comparatively short history and the fact that certain people do not wish to subscribe to the Rules now because of a certain amount of confusion which may arise for a year or two is no reason for making exceptions which will appear ludicrous in a century from now. I am wholeheartedly against the suggestion put forward in *Bull. zool. Nomencl.* **2** : 152. It is no more difficult nor confusing to get used to Meigen's 1800 names for the Diptera and to base the family names upon these genera than it has been to get used to the current usage of the family names ACRIDIDAE and TETTIGONIIDAE. Personally I am now quite used to such names as MELUSINIDAE and ITONIIDAE for SIMULIIDAE and CECIDOMYIIDAE. Why change it all back just as some at least are getting familiar with the change ?

Para. **25**—see Para. 14

Para. **26**

I should prefer RIODINIDAE (Swainston, 1827) Grote, 1895 since this seems nearer generic usage. When given in full this would be RIODINIDAE (ERYCINIDAE Swainston, 1827), emend. Grote, 1895.

Para. **31–33**—Fully agreed.

Para. **35**

I can see no reason for the recognition of super-super-tribes, especially if they are to be treated exactly as subfamilies. One can hair-split indefinitely and this category is inconsistent.

Para. **36**

Unless " tribes " etc. have a suffix of the form mentioned under para. 12 I am very dubious about their being co-ordinated with families etc., at least in respect of priority. It is my opinion that such names should have no priority status and to gain this they should first be published with an appropriate termination. They would then be valid as from that author and date.

It is my opinion that super-tribes, and sub-tribes should be given standardised terminations analagous with the termination "—INI " for tribes. They should however, be distinctive, as for example "—IDI " and "—ITI ". Such terminations would be purely arbitrary (if necessary) and not necessarily correct etymologically since it has already been pointed out that there are objections even to the accepted termination " —INAE " for subfamilies.

Groups of genera such as " tribes " named originally by merely using the nominative plural of the type genus, or by similar means such as adding the termination "—es " to the stem of the type genus, unless used with the word " family " (etc. —see Para. 12) should, irrespective of the status given by the original author (or any subsequent author), be regarded as of sub-tribal status. They would have to " work their way up " by being published with the agreed sub-tribal (or higher category) termination before they could ever be considered in any question involving priority. They would date as from the first usage with the approved termination. Sub-tribes not having the approved termination would obey the rules of priority among themselves but would not take priority over correctly formed tribal names.

Para. **40**

Agreed. Provision should also be made to reserve the termination " —OIDEA " for superfamilies and to prevent its usage for higher categories. It has been used (and still is in some cases) for sub-orders of " Helminthes " and for super-orders of Insecta.

Paras. **41–42**—Agreed.

Para. **43**—I fully endorse the need for an *Official List of Family Names*.

Para. **45**

The name of a family should under no circumstance be placed on an *Official List of Family Names* unless the name of the type genus has previously been or is simultaneously placed on the *Official List of Generic Names*. This will prevent any likelihood of the name of a type genus being changed and leaving a family name on the *Official List* which is derived from a stem differing from that of the " new " name of the type genus.

Para. **46**—Agreed in the main but see 36 above.

Para. **47**

I should prefer to see the word " Tribal " also included in the title.

DOCUMENT 3/17

Suggestions furnished by Dr. FRANZ DANIEL

(*Zoologische Sammlung des Bayerischen Staates, München, Germany*)

Editorial Note.—Attention is drawn to the letter dated 30th April 1952 from Dr. Franz Daniel (*Zoologische Sammlung des Bayerischen Staates, München*), which, being mainly concerned with the problem of promoting stability in zoological nomenclature, has been included in the series of papers which has been assembled in regard to that subject. It is there included as Document 1/25.

In the letter referred to above, Dr. Daniel suggested that the stabilisation of nomenclature should be sought by the establishment of committees of interested specialists in particular groups at the family level, wide powers being given to these committees to promote stability without being unduly trammelled by the principle of priority. It was an important feature of this plan that family names should be stabilised in harmony with established practice.

DOCUMENT 3/18

By Th. HALTENORTH
(*Museum, München, Germany*)

Statement, dated 14th May 1952, communicated by Professor E. M. Hering

II. Einverstanden. Bei B.2 und B.8 ist Fassung (*a*) zu bevorzugen.

Explanatory Note

The foregoing comment was prepared by Dr. Haltenorth in response to an invitation by Professor E. M. Hering who had prepared the following synopsis of the problems at issue for consideration by German zoologists. It is to this document that the numbers cited by Dr. Haltenorth refer.

II. Erweiterung der "Regeln" Bezuglich der Familien und Untergeordneter Kategorien Oberhalb der Gattung

A. Problem: Wie soll die Familien-pp-Benennung geregelt werden? Der Kongress von Graz (1910) änderte die Regeln dahin ab, dass nicht die "Wurzel," sondern der "Stamm" der typischen Gattung durch Anhängung von -idae etc. zum Familien-pp. Namen wird.-Paris 1948 entschied, dass unter "Stamm" der grammtikalische oder klassische Stamm des Wortes oder ein Teil des Stammes zur Familien-pp. Bezeichnung verwendet wird. In beiden Anderungen keine genügende Präzision.

B. Vorschläge für Neufassung: Zu den "Regeln" sollen "Ratschläge" gegeben werden die zur richtigen Stammfindung griechischer oder lateinischer Wörter anleiten.

(2) *Bei inkorrekten Bildungen*: Prinzipiell keine Emendierungen:

(*a*) Wenn die Bildung inkorrekt, sollen Spezialisten Antrag bei I.N.K. stellen, die nach Veröffentlichung etc. Emendierung vornimmt, weniger unter Berücksichtigung philologischer Gesichtspunkte als zweckmässiger Stabilität.

(*b*) Wo vor Neufassung der "Regeln" Emendierung erfolgt ist, die z.T. eingebürgert ist, soll die I.N.K. nach gebräuchlichm Verfahren entscheiden, ob und welche Emendation anerkannt wird.

(3) *Bildung* von Familien-pp. Namen *nach Neufassung* der Regeln: Die im einzufügenden "Ratschlag" gegebenen Richtlinien sollen bindend sein. Wo trotzdem inkorrekte Bildung, erfolgt automatische Emendierung.

(4) Welches *Genus* soll *Typus* der Familie sein? 2 Möglichkeiten:

(*a*) Recht des orsten Auswählenden (durch *Opinion* 141-Lissabon 1935 und Paris 1948 in die "Regeln" eingefügt).

(*b*) Alteste Gattung der Familie (bedenklich, da durch Auffnidung älterer hineingehöriger Gattungen Familienname geändert werden müsste!)

(5) Soll das *Datum in Prioritätsfragen* sein :

(*a*) Datum der ersten Familiennamenbildung ohne Rücksicht auf Endung ? oder

(*b*) Erste Familiennamen-Bildung mit -idae ? Bei anderen Kategorien ähnlich. Vorschlag : bis etwa 1850 sollen Bildungen auch ohne -idae pp. gültig sein, später nur mit -idae pp.

(6) *Priorität*, wenn der älteste *Gattungsname ersetzt* werden muss. Vorschlag : Bei Anderung des Namens der typischen Gatung Datum der Bildung durch diese Gattung, wenn sie von einem Artnamen begleitet war.

(7) Familien-pp. Bezeichnung wird *nicht geändert*, wenn ein Autor subjektiv die *typische Gattung als identisch mit einer anderen*, älteren ansieht. Wo aber Spezialisten den Antrag stellen, die Anderung vorzunehmen, soll die INK. nach vorgeschriebenem Verfahren eine Entscheidung herbeiführen.

(8) Bei der *Vereinigung zweier Familien* Name der neuen Familie :

(*a*) Nach der Familie mit dem altesten typischen Genus zu wählen ? oder

(*b*) Das Recht der Auswahl dem 1. Bearbeiterzu geben ?

(9) Im Interesse der *Stabilität* soll bei Vereinigung die neue Familie den *länger bekannten* bezw. auf das am *meisten verbreitete Genus* gestützten Namen tragen, gegebenenfalls auf Antrag bei der INK.

(10) *Ausnahmen* von der Regel, dass in jedem Fall die Familie pp. nach dem typischen Gattungsnamen gebildet wird :

(*a*) Einige *eingebürgerte* Familiennamen haben *keine gleichnamige* typische Gattung.

(*b*) Es kann manchmal *bei Änderung des Gattunganamens Beibehaltung* des Familiennamens wünschenswert sein (Chironomidae-Tendipedidae). In beiden Fällen Entscheidung durch INK. auf Antrag der Spezialisten.

(11) Bei Einführung der Priorität für *Familiennamen* sollen diese entsprechend den Gattungsnamen *Autor und Datum* bei der Schreibung erhalten.

(12) Bei *Homonymie* ist der jüngere Name zu verwerfen ; geringfügige Unterschie de rechtfertigen Selbständigkeit. Bei Homonymie auf Grund verschiedener Gattungbezeichnungen (z.B. Cyprinidae bei Pisc. von Cyprinus, bei Moll. von Cyprina) entscheidet auf Antrag die INK.

(13) Die Regeln für die Familien gelten auch für Unterfamilien (-inae) und Tribus (-ini), obgleich die Endung der Tribus sprachlich ein Neutrum zugrunde legt.

(14) Die *nominotypische* Unterfamilie soll -abgesehen von der Endung -der Familie gleichen, gleiches entsprechend für Tribus.

(15) Die *Kategorien* Familie und die unterhalb von ihr stehenden über der Gattung stehenden sollchen in gleicher Weise *koordiniert* sein, wie es Gattung und Untergattung sind.

(16) Weitere zu schaffendende untergeordnete Kategorien sind in gleicher Weise mit den vorgenannten koordiniert.

(17) Gleiche Regeln sollen auch für das *Supergenus* gelten, doch sollen diese *Priorität nur unter sich* haben. Welche Endung wird vorgeschlagen ?

(18) Für *Superfamilien* gelten gleiche Verfahrenvorschriften, doch auch diese sollen *Priorität nur unter sich* haben. Endung : -oidea.

(19) Vorschlag auf Schaffung einer " Offiziellen Liste der Namen der Familien und untergeordneter Kategorien " (" Nomina conservanda ") und eines " Offiziellen Index der verworfenen und ungültigen Namen für Familien etc." Beide Listen analog den schon bestehenden für Gattungen und Arten, mit den gleichen Verfahrensvorschriften für die INK.

(20) Fragen an= die Spezialisten :

(*a*) Besteht Übereinstimmung mit den Vorschlägen ?

(*b*) Wenn nicht, was soll geändert werden ?

(*c*) Welche Gesichtspunkte sind nicht berücksichtigt, Vorschläge für diese ?

DOCUMENT 3/19

By W. J. ARKELL, M.A., D.Sc., F.R.S. (*Sedgwick Museum, Cambridge University, Cambridge*)

Letter dated 23rd May 1952, with enclosure

I have read with admiration your most thorough and clear papers in the *Bull. zool. Nomencl.*, vol. **7**, Parts 1–6.

I enclose comments on Z.N.(S.)357 (family names). I should be content to see . . . everything . . . not covered by my comments go through as expounded in your papers.

Enclosure to Dr. Arkell's Letter of 23rd May 1952

P. 89, *Para.* **40**

Terminations for superfamily names. In Mollusca "—ACEA ", "—ACEAE " have been generally used. Of these "—ACEAE " was recommended to authors of sections of the *Treatise on Invertebrate Paleontology* for all fossil invertebrates, but as some complaints were raised, the recommendation was withdrawn in favour of private enterprise. I have always used "—ACEAE " like most previous workers on Cephalopods. The ending "—OIDEA " is hopeless for Cephalopods, being that used for the Orders Ammonoidea, Nautiloidea, etc.

Para. **41**

The last sentence (p. 90) seems to me essential.

DOCUMENT 3/20

By LESLIE BAIRSTOW, M.A.
(*British Museum (Natural History), Department of Geology, London*)

(1) Letter dated 26th May 1952

After studying your paper in Vol. 7 of the *Bulletin of Zoological Nomenclature* on family names and related matters, I now send my comments on the questions which you raise.

The proposals that you have put forward seem to me to constitute a well-thought-out and coherent scheme, and I find myself in general agreement with much of what you have written.

At first sight the number of different circumstances in which special application to the International Commission may become necessary is a little disturbing. However, these are, of course, problems that are not amenable to hard and fast rules, and I suppose that it is well to state explicitly particular circumstances in which applications to the Commission are called for. As such circumstances relating to family names are all exceptional, in practice the combined burden from this source may prove after all not to be unduly heavy.

Paras. **4-10**

As regards the problem, discussed in paragraph 4, of defining "stem," I consider that the particular solution set out in *Bull. zool. Nomencl.* **4** : 246 involves an undesirably large subjective element. I am glad to note that this view is shared.

From paragraphs 4 to 6, I conclude that throughout paragraphs 4 to 10 the intention is to deal solely with the problems peculiar to determination from correctly-spelt generic name of its stem on which a family name is to be formed—as distinct from the problems of orthography that concern equally the generic name, its stem, and any family name formed from its stem. On this assumption I agree that the original form of the stem of a family name published prior to the coming into operation of the revised scheme should not be emended except by the Commission, but that emendations already in common use should not be discarded pending decision by the Commission ; I agree also that formation of family names published after the coming into operation of the revised scheme should be governed by the rules and Schedule suggested.

Paragraphs 8 and 9 seem however to be so worded that they might apply not merely to emendations relating to the construction of a family name from a correctly-formed generic name, but also to emendations of family names that may arise from problems of orthography that concern equally the generic name, its stem, and the family name formed from its stem. Thus it seems that there might be some overlap between the provisions here suggested, according to the present wording, and the general provisions for emendation of zoological names that are suggested in 1952 *Bull. zool. Nomencl.* **7,** Parts 1/2. Perhaps this is inadvertent, for it seems to me that according to the proposals

as they are at present worded, certain automatic emendations of an incorrectly-formed generic name are possible, but that if a family name had been formed from the stem of the still-unemended generic name, the comparable emendation of the family name could not be validly effected without reference to the Commission : whereas an emendation of the family name in sympathy with an emendation of the generic name should preferably be automatic.

Paras. **11** *and* **17**

I strongly support continuation of the present rule that an author establishing a new family should be free to select whatever genus he considers the most appropriate to be type genus.

Paras. **12** *and* **13**

I agree that the essence of the general rule should be " that a name is to be treated as having been published as a family name only when the term used for this purpose was formed with the termination ' -IDAE '." It should be made clear whether, conversely, a name that was proposed with the termination " -IDAE " should be automatically available as a family name even if not proposed as a family name, so long as originally of supra-generic rank. I agree with Richter (1948, *Einführung in die Zoologische Nomenklatur*, 82-3) and R. C. Moore (in the unpublished *Treatise* Circular 4, note 9) that such a name should be automatically available ; and certainly the use of such a name in any other sense would be contrary to the Commission's recommendation (1950 *Bull. zool. Nomencl.* **4** : 261).

In confining the above statement of the essence of the general rule to family names and the termination " -IDAE," I assume, of course, that other categories of the family group of categories, and their appropriate terminations, will be brought under the rule by such provisions as may be accepted in relation to paragraphs 30 to 42. It should be made clear, in addition, what is to be the application of the general rule to a case such as that of the Family OMMASTREPHINI Steenstrup, 1861, where the termination is a permissible termination for a category of the family group of categories, and yet is not appropriate to the particular category to which the name concerned was assigned by its author. I think that, in this example Steenstrup should be considered to have made potentially available, as from the date of his publication, OMMASTREPHIDAE, OMMASTREPHINAE, OMMASTREPHINI, and so on—i.e. all forms of the name appropriate to the various categories of the family group of categories.

I agree that the general rule should be supplemented by provision for exceptions, to allow of retrospective attribution, at any rate in certain instances in which the publication of some unorthodox form of a family name, at an earlier date than its publication in orthodox form, may nevertheless be held to constitute effective publication of the family name. I agree also that no exception should be permissible in favour of any improperly-formed family name published later than an agreed limiting date such as 1850.

As you will have gathered, I hoped at one time that it might be possible to secure agreement on rules defining the limits of possible exceptions of various

kinds in such detail that it would rarely be necessary to submit individual exceptions to the Commission.

However, though I am one of those zoologists who are reluctant to accept non-Latinized family names as having any status at all, there would evidently be difficulty in securing agreement on a rigid rule even relating to this fundamental question, if it is indeed the case that in some groups family names are commonly accepted as dating from original publication in non-Latinized form. Exceptions in favour of non-Latinized names should certainly not be permissible without the express sanction of the Commission in each individual instance ; and if such exceptions are to be allowed, Articles 3 and 21 should be modified in such a way as to make it clear that these Articles are not thereby infringed.

Probably there would be equal difficulty in securing agreement on a rule that there should be no exception in favour of family names that are Latinized but are not plural in form (Example : Family BELEMNOSEPIA Buckland, 1836) ; especially as it is not always clear whether a name is singular or plural in number.

It seems, moreover, a reasonable claim that no exception should be permissible unless it had secured acceptance, by workers on the group concerned, before the coming into force of the new rule ; and this is a policy to which it would indeed be difficult to give effect without referring each proposed exception to the Commission.

I am therefore ready to accept that there should be no exception to the general rule, " save that, in the case of families which prior to the introduction of the revised scheme have been treated as having been established by the publication before 1850 of a term not bearing the foregoing termination, it shall be open to the International Commission " . . . " to direct that the family is to be treated as having been established as from the date of the publication of a term not bearing the termination ' -IDAE.' "

I agree that, as suggested, there should be provisions regarding public notice and the criteria to be followed by the Commission, also a " Recommendation " deprecating hasty name-changing.

Para. **14**

I agree that a family under its changed name should retain its original priority when, though the name of its type genus is changed, the type species of the type genus remains unchanged.

Para. **15**

I agree that when the nominal genus upon which a family name is based is subjectively identified with another nominal genus having an older available name, the family name should not be subject to change except by the Commission in response to consensus of specialist opinion.

Para. **16**

I agree that, in deciding between competing names for a family, the criterion should not be possession of the type genus having the oldest name of any of the names of the type genera concerned.

Para. **17**

See paragraph 11.

Paras. **18-20**

I favour basing decisions between competing names for a family on priority as between the dates at which the various type species concerned severally came to be the type species of the type genera of the families in question ; subject to a proviso that, where specialists represent to the Commission that difference of opinion is liable to lead to the sinking, as a subjective synonym, of a well-known family name in favour of a little-known family name, it shall be open to the Commission in response to consensus of specialist opinion to direct which of the family names concerned is to take precedence over the other.

Paras. **22-24**

The following are examples of family names that are not based on generic names :—

(1) POLYTEUTHIDAE Stolley, 1919.

There is no genus *Polyteuthis*.

(2) HASTATIDAE Stolley, 1919.

There is no generic name with the same stem. The derivation is presumably from Hastati (one of the sections into which the broad genus *Belemnites* was formerly divided) and from the species *Hibolites hastatus*, rather than from the genus *Hastites* Meyer-Eymar, which in its restricted sense is quite outside the HASTATIDAE.

In other examples the family name is at any rate not formed simply by the addition of " -IDAE " to the stem of the generic name :—

(1) PROTOBELEMNITIDAE A. P. Pavlow, 1913.

There is no genus *Protobelemnites*.

(2) EUBELEMNITIDAE A. P. Pavlow, 1913.

There is no genus *Eubelemnites*.

(3) NEOBELEMNITIDAE A. P. Pavlow, 1913.

There is no genus *Neobelemnites*.

Presumably these three names are based in a sense, though I think not in a relevant sense, on the old broad genus *Belemnites*.

I agree that a family name not based directly upon the stem of the objectively valid name of its type genus should not be validated by the Commission except as a last resort, i.e. in the circumstances that the family name is an early one and so well established as the name for a concept that is still currently required that its preservation is considered essential, also that the end cannot be more readily achieved by validating the generic name (if any) on which the family name was based.

As regards availability for such validation, each of the family names that I have quoted above as examples would be disqualified two or three times over.

I take it that the subsequent proposal of a generic name with the same stem, even if explicitly based on that of the invalid family name, would not suffice to validate the family name retrospectively.

I assume also that if a generic name is suppressed under the plenary powers, any family name formed from the stem of this generic name falls with it unless the Commission makes special provision for the exceptional retention of the family names.

Para. **25**

I agree that author and date of family name should relate to first publication of the name in its accepted form, subject to certain exceptions. Exceptions should not be restricted to the special case of a substitute family name discussed in paragraph 14, but should include also, in particular, any special case arising from paragraphs 12-13.

Para. **26**

I agree that normally the author and date of a family name should be cited after the same style as the author and date of a generic name.

There remains the question of style to be adopted in instances of retrospective attribution of family names. The suggested style exemplified by "RIODINIDAE (ERYCINIDAE emend. Grote, 1895) Swainson, 1827" may tend to be a little misleading, for it seems to link unduly the author Grote with the name ERYCINIDAE and the author Swainson with the name RIODINIDAE, a reversal of the primitive relationship.

Richter (1948, *Einführung in die Zool. Nomenklatur*, 88) suggested a different style of citation. As applied to the same example, his system would yield "RIODINIDAE (Swainson, 1827) Grote, 1895." which might be expanded as "RIODINIDAE ERYCINIDAE (Swainson, 1827) Grote, 1895." This, however, seems to me to give undue prominence to Grote, 1895, when for purposes of priority of RIODINIDAE the significant date is 1827.

Naef (1922, *Die fossilen Tintenfische*, 297) employed "LOLIGINIDAE Steenstrup, 1861 (as LOLIGINEI)," equivalent in our example to "RIODINIDAE Swainson, 1827 (as ERYCINIDAE)." I suggest the adoption of this style for general use, and its expansion, when fuller history is required, to the style of "RIODINIDAE (Grote, 1895) Swainson, 1827 (as ERYCINIDAE)."

Whatever style is agreed on should be applicable whenever there is retrospective attribution, whether in the circumstances of paragraph 14 or of paragraphs 12-13.

Paras. **27** *and* **28**

I agree that there should be provision for eliminating homonymy that arises when names of different families are based on generic names that are different yet have the same stem. I agree, further, that, except when good reason to the contrary is demonstrated, the homonym relating to the earlier-established family should be regarded as the senior homonym to be retained unchanged.

It is apparent from *Opinion* 140 that it is possible for the Commission, at any rate in some cases, to devise a small change sufficient to eliminate troublesome homonymy without seriously disturbing the relationship between the name of a family and that of its type genus. Moreover, in view of the importance of preserving this relationship (as stressed in paragraphs 22-24) I assume that any total rejection, rather than trifling emendation, of a homonymous family name would involve changing not only to a different family name but also to a different nominal genus as type genus. If the change to a different genus as type genus were purely a nominal change, the generic name adopted still relating to the same genus, the change would involve use of the Commission's plenary powers ; whilst a change to a genus considered different though confamilial would commonly involve establishing a new family name—in which event the non-availability, as type genus, of the genus whose name would lead to homonymy at family level, would conflict to some extent with the desideratum (paragraph 11) that an author establishing a new family should be free to select whatever genus he considered the most appropriate to be the type genus.

Because of these considerations I doubt the desirability of including any provision for automatic rejection of family names that are junior homonyms. Especially as homonymy of family names is only of rare occurrence, I favour endorsement of the interim decision that where the application of Article 4 led to the establishment of two or more families having the same name, the case is to be referred to the Commission.

Para. **29**

I agree that rules for determining whether generic names are to be treated as homonyms should apply also to family names.

Para. **30**

I agree that the revised scheme should contain an express provision that except in so far as there is express provision to the contrary, the naming of subfamilies shall be subject to the same provisions as those governing the naming of families.

Para. **31**

It is unfortunate that the terminations " -INAE " and " -INI " apparently differ etymologically only in gender ; and that the termination " -INAE " is claimed to be objectionable to French zoologists because of its feminine gender.* But generic names are not all of masculine gender, nor are names of higher categories !—and in any event the termination " -INAE " for subfamilies is so well established that I should prefer to accept its defects rather than to invite the confusion that would be likely to result from attempting to enforce a change.

*See Document D3/9.

Para. **32**

I agree that there should be explicit provision that the subfamily containing the type genus of the family should have the same genus as its type genus and should be known as the nominotypical subfamily; and that its name should differ from that of the family only by the appropriate differences of termination.

Para. **33**

I strongly favour treating family and subfamily names as co-ordinate.

Paras. **35-38**

Here it seems to be taken for granted that the expression " tribe " should be used in the sense of a category between subfamily and genus. I do not think that this should be assumed without discussion, for the expression " tribe " has often been used in other senses, and especially for a category between suborder and family.

According to W. T. Calman (1949. *The Classifications of Animals*. 18) " intermediate groups with names like . . . Tribe . . . have been used indiscriminately for categories of the most diverse values."

Tribe has been used at a level between suborder and family by, for example, Sedgwick (1898-1909, *A Student's Text-Book of Zoology*) in Crustacea, Gastropoda, Pisces, Reptilia and Aves, by Bülow-Trummer (1920, in *Fossilium Catalogus*) in Dibranchia, and by Grimpe (1922) in his important classification of Cephalopoda.

As Calman made clear (*loc. cit.*, pp. 21-22), the level at which optional extra categories are needed varies in different parts of the Animal Kingdom. In Dibranchia the need is for extra categories between suborder and family rather than between subfamily and genus. If consensus of opinion indeed favours restricting tribe to the main category between subfamily and genus, some other term should be made available for the main category between suborder and superfamily.

Para. **35**

I see no objection to forming the name of a group that is at any taxonomic level between subfamily and tribe (or whatever the main category between subfamily and genus may be called) as though it were a subfamily.

Para. **36**

My only objection to the use of the termination " -INI " for the main category between subfamily and genus is that in speech it is not easy to distinguish from -INAE; and I do not think that this is a very serious objection. If, however, any change in termination were to be made in view of Professor Jeannel's claim (Paragraph 31) that " -INAE " is merely the feminine equivalent of " -INI," I consider that a change of the termination " -INI " would be less harmful than a change of the termination " -INAE " which is so much more firmly established.

Whether or no the name tribe should be employed for the main category between subfamily and genus need not affect employment of the termination "-INI," for this termination has not generally been associated with the term tribe when employed at other levels.

Whatever term is adopted for the main category between subfamily and genus should be carefully defined ; and names at this level should be co-ordinate with the names of families and subfamilies.

Para. **37**

I agree that the optional category "supergenus," when employed should be regarded as a category of the "family" group.

Para. **38**

I see no objection to prescribing that a name given to a supergenus should be treated as co-ordinate with other categories of the family group ; nor to the proviso that supergeneric names should rank for priority *inter se* by reference to the dates on which they were respectively published as such. Style for double attribution sometimes necessitated will need to be specified ; the style adopted for super-generic names should be comparable to that adopted for superfamily names—see comment on paragraphs 39-42.

I agree that it would be well for those who employ the category supergenus to put forward suggestions for a uniform termination.

Paras. **39-42**

I am not satisfied that superfamily names should be "based invariably upon the stem of the name of a genus which is already the type genus of one of the families included in the superfamily concerned." In Dibranchia, categories are recognised at one or two levels between suborder and family, and most of the names concerned are not based on the stem of the name of a genus which is already the type genus of one of the families concerned ; only perhaps one of these names has hitherto been explicitly claimed as a superfamily, but this rank seems the obvious one for names that constitute the main category between suborder and family.

Further, I am not convinced that it is desirable to include the category superfamily in the family group rather than in the ordinal group of categories, and that the names of superfamilies should be co-ordinate with the names of families.

If, however, it is indeed decided that superfamilies are to be included in the family group of categories, that their names are invariably to be based on the names of genera that are type genera of included families, and that their names are in general to be co-ordinate with the names of families, it will be more than ever necessary to provide, between suborder and superfamily, additional optional categories belonging to the ordinal group of categories.

In any event I agree that superfamily names should rank for priority *inter se* by reference to the dates on which they were severally published as such. Style for double attribution sometimes necessitated will need to be specified. " X-acea (X-idae author A, earlier date) author B, later date " would be an appropriate style if superfamilies were accepted as belonging to the family group.

Para. **40**

I agree that there should be a special termination for superfamily names but should prefer, instead of " -OIDEA," the termination " -ACEA," which has been used for superfamilies in Ammonoidea, Lamellibranchia, Gastropoda and Brachiopoda. Formerly " -ACEA " was used as a family name by Philippi, 1853, in his work on Mollusca ; now that " -ACEA " is no longer required for families, its use for superfamilies would seem very appropriate.

The termination " -OIDEA " has, I think, been used more often for higher categories (e.g. suborders or orders in Dibranchia, Brachiopoda, Carnivora ; classes in Echinoderma) than for superfamilies. For superfamilies the terminations " -OIDAE " and " -ACEA " have also been used.

Paras. **43-45**

I support the proposal that an *Official List of Family Names in Zoology*. and a complementary *Official Index of Rejected and Invalid Family Names*, should be established with scope suggested. I agree also that the consequential additions should be made to the regulations in relation to the *Official List of Generic Names*.

Para. **46**

I agree that names that belong to all the categories mentioned in this paragraph (with the possible exception of superfamilies) should be regarded as co-ordinate and eligible for inclusion in the proposed *Official List of Family Names* ; and that they should be entered in the form suggested.

Paras. **47** *and* **48**

I agree that the suggested titles of *List* and *Index* are sufficient, and that the arrangements to mark the official status of *List* and *Index* should be as suggested.

(2) Letter dated 9th June 1952

Since I wrote on May 26th I have remembered another example of a family name not based upon the name of a genus included in the family ; and as this example differs somewhat in character from the examples that I noted in commenting previously on your paragraph 22, it may perhaps be worth adding.

The family name TEUTHIDAE Owen, 1836, was based explicitly on " the term γευθος applied by Aristotle to the ten-armed Malakia with an internal horny plate or *gladius*." Even before 1836, use of the component " -teuthis " as an element in compounding generic names in Dibranchia had already begun ; and " -teuthis " or " Teuth-" now forms part of a very great number of names of genera and of higher categories in this subclass. However, *Teuthis* as a valid generic name in zoological nomenclature relates, unfortunate though the fact may appear as regards work on Dibranchia, to a quite different form that belongs not to Dibranchia but to Pisces : *Teuthis* Linnaeus, 1766, with type *T. javus* Linnaeus. This is in the *Official List of Generic Names in Zoology*—see *Opinion* 93 (1926, *Smithson. misc. Coll.* **73** [No. 4] : 5, 10), where at any rate in the published version *Teuthis* as a homonymous generic name in Dibranchia was not even mentioned. Apart from " *Teuthis* Schneider, 1784," which as you have pointed out is a cheironym possessing no status under the Rules, and which is in the *Official Index of Rejected and Invalid Generic Names*, the name *Teuthis* as a formal generic name in Dibranchia apparently does not date from earlier than J. E. Gray, 1849.

It is clear, accordingly, that the family name TEUTHIDAE Owen, 1836, was not based upon the name of a genus included in the family : for though there was in existence a valid nominal genus *Teuthis* Linnaeus, 1766, TEUTHIDAE Owen had nothing to do with that nominal genus ; and though *Teuthis* Gray, 1849, was based, like TEUTHIDAE Owen, 1836, on Aristotle's teuthis, *Teuthis* Gray, 1849, had not been proposed at the time when TEUTHIDAE Owen, 1836, was proposed. In this instance, moreover, there can be no question of retrospective validation of the family name on subsequent proposal of the appropriate generic name, as in any event *Teuthis* Gray, 1849, is preoccupied by *Teuthis* Linnaeus, 1766.

DOCUMENT 3/21

By J. R. DYMOND

(*University of Toronto, Department of Zoology, Toronto, Canada*)

Statement received on 27th May 1952

I approve the suggestions contained in Volume 7, Part 3, of the *Bulletin of Zoological Nomenclature* for the insertion in the *Règles* of provisions relating to the naming of families and cognate groups in replacement of the provisions in the existing Articles 4 and 5.

I am especially impressed by the suggestion for the creation of an *Official List of the Names of Families, Superfamilies, Subfamilies, Tribes and Supergenera.*

I also favour references to the International Commission of problems where leaving the decision to the subjective opinion of taxonomists might result in an undesirable number of changes in names.

DOCUMENT 3/22

By JAMES A. SLATER and JEAN L. LAFFOON

(*Department of Zoology and Entomology, Iowa State College of Agriculture and Mechanic Arts, Ames, Iowa, U.S.A.*)

Letter dated 28th May 1952

We believe that Articles 4 and 5 of the Rules have been misinterpreted in the past, and that a more accurate interpretation would be a great aid in the stabilisation of family names. Current practice is inconsistent with respect to treatment of the type genera of families as compared with the type species of genera. We feel that there are grounds in the Rules for removal of this inconsistency, and at the same time for moving toward a more stable basis for family names.

To illustrate our viewpoint we may first examine current practice as to type species of genera :—

(1) The type species of a genus is the first species validly designated as the type species, even though its name may be considered as a synonym of another specific name.

(2) Thus if Jones, 1910 describes *A-us*, and designates *A-us albus* Jones, 1910, as the type species, *A-us albus* Jones, 1910, remains the type species of *A-us* even though it might later be considered to be identical with, and therefore its name a synonym of *B-us cinereus* Smith, 1900.

(3) This is the current general practice with regard to type species of genera, and is supported by statements of the Commission. For example, in *Opinion* 44, *Leptocephalus morrisii* Gmelin is considered as the type species of *Leptocephalus*, even though its name is a junior synonym of *Muraena conger* L. This procedure is to be

desired, as conceivably it might at some time be found that *morrisii* and *conger* are not identical with one another and not even members of the same genus, in which case the genus name *Leptocephalus* would follow *morrisii*. On the other hand, if *conger* became the type species of *Leptocephalus* when *morrisii* became a synonym of *conger*, confusion would result if the two should later be placed in separate genera.

We may now examine the current practice relating to the type genera of families, and the portions of the Rules which are pertinent.

(1) Article 4 of the Rules states: "The name of a family is formed by adding the ending *idae*, the name of a subfamily by adding *inae*, to the stem of the name of its type genus."

(2) *Opinion* 141 states, in part: "The fact that a given generic name is selected to form the name of a family constitutes *ipso facto* a definite designation of that genus as the type genus of a family." The type genera of most families have been selected in this manner.

(3) Article 5 of the Rules states: "The name of a family or subfamily is to be changed when the name of its type genus is changed."

(4) Thus if Jones, 1850 describes a family X-IDAE, based on *X-us* Smith, 1810, the latter is automatically the type genus of family X-IDAE.

(5) According to present practice, supported by statements of the Commission,* if it were later considered that *X-us* Smith, 1810 is a synonym of *Y-us* Doe, 1800, the family name is "changed" to Y-IDAE.

(6) It is our view that the reasoning in paragraph 5 is inconsistent with Article 5 of the Rules and also with the current practice regarding type species of genera, since we would regard *X-us* as continuing to be the type genus of the family, even though it had fallen into synonymy. And, since the family name is formed by adding the termination "-IDAE" to the stem of the type genus, the family name would continue to be X-IDAE. *X-us* was the original type genus of the family, and placing it in synonymy with *Y-us* on subjective grounds does not constitute a change in the name of the type genus in the sense of Article 5. Except when *X-us* and *Y-us* have the same type species, *X-us* is purely a subjective synonym of *Y-us*, and the fact that some authors might consider it to be a synonym is no reason why a later author might not remove it from *Y-us*. In the latter case the family name would originally have been X-idae, later Y-idae, and (when *X-us* was removed from *Y-us*) again X-IDAE, according to present practice. We hold that for nomenclatorial purposes the type genus of a family should

*For example, in *Opinion* 139, p. 42, it is mentioned that since *Astatus* Jurine, 1801, had been suppressed, "It followed also that the name CEPHIDAE replaced the name ASTATIDAE." In this case *Cephus* was the first genus in the family to be made the basis of a name above genus—and the obvious implication of the Commission was that if *Cephus* had been allowed to fall as a synonym of *Astatus*, the family name would have to be changed to ASTATIDAE, since the name of the type genus would have been "changed."

always remain the original nominal genus so designated, and not follow the vagaries of name "changes" due to shifting ideas as to synonymy. (An especially horrible example of the latter is the case in Diptera of the changing practice in citing a family name for the family once known as RHYPHIDAE, later ANISOPODIDAE, then PHRYNEIDAE and then SYLVICOLIDAE—when, in our view, the name should have remained RHYPHIDAE all the time, since *Rhypus* is the type genus.)

(7) There remains to be explained what cases would be covered by Article 5; i.e., if it is assumed that the name of the type genus does not change for nomenclatorial purposes just because it falls into synonymy—when is it changed in the sense of Article 5? We believe that this would apply only to cases where the original type genus (the *X-us* Smith, 1810, of our example) is found to be a junior homonym, or other grounds which would make it unavailable (such as being a nude name, or suppressive action by the Commission). The above interpretation of the type genus would be in accord with current practice in respect to type species.

(8) We agree that this interpretation of Articles 4 and 5 is possibly not in accord with the intent of the writers of the Rules (judging from some of the *Opinions* which indirectly treat on this matter), yet we believe that a strict interpretation of the wording of these Articles can lead only to the interpretations we have made. It is interesting to note that several authors have advocated changes in the Rules in order to allow the use of generic names in synonymy as the basis for formation of family names in at least some cases (e.g. Sabrosky, 1947, *Amer. Nat.* **81**: 153-160; and Hemming, 1952, *Bull. zool. Nomencl.* **7**: 74-75) but to our knowledge no previous writers have noted that the basis for such action is already present in the Rules. We have had correspondence with several specialists who have indicated that they would like to be able to use generic names in synonymy as the stems for family names.

We are of the opinion that this interpretation of Articles 4 and 5 would be a great step forward in the stabilisation of family names. No doubt some family names that have been changed in the past would have to be switched back to an earlier usage (unless the Commission used its plenary powers where the present family name has come into wide acceptance), but many future changes could be avoided.

One case in point is the family names in Diptera revolving around the acceptance as valid published names of Meigen's 1800 genera. We believe that, if what we consider to be the proper interpretation of type genera had been made by past workers, that, for example, the family name MYCETOPHILIDAE would be in current universal use even though *Mycetophila* must be considered a synonym of *Fungivora* (in this case, both genera have the same type species). It is highly probable that, if dipterists had realised that it was not necessary to change the several family names involved even though the Meigen, 1800 generic names were accepted, that less opposition would have developed against the generic names.

DOCUMENT 3/23

By S. G. KIRIAKOFF, L.SC.
(*Zoological Museum, Ghent University, Ghent, Belgium*)

Enclosure to letter dated 5th June 1952

Commission's Ref. Z.N.(S.)357. Formation of the Names of Families and Subordinal Categories of Suprageneric Rank (" Bull. zool. Nomencl.," 7 (pt. 3) : 61-94)

I agree with the suggestions contained in the above paper.

I submit the following suggestions to be considered by the Commission :—

(a) Terminations of superfamilies to be " -OIDEA " ;

(b) Terminations of subfamilies to remain " -INAE " ;

(Note.—Professor Jeannel's objection* to the feminine form of " -INAE " does not stand, because the family termination " -IDAE " is also feminine and to the latter he does not object ; moreover, the masculine termination " -INI " for tribes has so far no legal status.)

(c) Terminations of supertribes to be " -INES " ;

(d) Terminations of tribes to be " -INI " ;

(e) Terminations of subtribes to be " -IDI."

For my suggestion regarding the cohortal category, see separate sheet enclosed herewith.†

Supplementary Note

Editorial Note : Attention is drawn to a paper dealing jointly with the problem of Family names and Ordinal names which forms an annexe to a communication on the latter subject received from Dr. S. G. Kiriakoff (*Zoological Museum, Ghent University, Belgium*), which appears in the Ordinal names section of present Copenhagen series of papers.‡ In this paper Dr. Kiriakoff expresses the view that the proposed revision of the rules relating to the naming of families and allied groups, which he supports, should be supplemented by the inclusion therein of provisions relating to the naming of the sub-category " cohort " and the divisions just above and below it, namely the " supercohort " and the " subcohort," there being, in his experience, cases where " the use of Superfamilies alone would have been quite inadequate to express the nearer relation between the various phyletic stems and branches, each consisting of one or more Superfamilies."

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*See Document 3/9.
†See the Supplementary Note annexed.
‡See Document 4/13.

DOCUMENT 3/24

By ERICH M. HERING

(*Abteilungsleiter am Zoologischen Museum der Humboldt-Universität zu Berlin*)

Statement received on 7th June 1952

Stellungnahme zu den Vorschlägen zur Erklärung und Erweiterung der " Règles " in Bezug auf die Bennungung der Familien, etc.

Der Zoologen-Stab des Zoologischen Museum Berlin unterstützt mit 14 von 14 Stimmen die im Bull. Zool. Nom. vol. 7, Pt. 3, p. 61-94 ausgeführten Vorschläge mit den folgenden besonderen Bemerkungen :

(1) Para. 11 (l. c. p. 70) : Typisches Genus der Familie soll das vom ersten Auswählenden festgelegte Genus sein, das nicht das älteste Genus der Familie zu sein braucht.

(2) Para. 12 (l. c. p. 71-73) : Unterstützt wird der Vorschlag, dass für das Prioritätsdatum bis etwa 1850 auch Namensbildungen ohne die Endung -idae, von diesem Zeitpunkt an nur solche mit der Endung -idae Priorität haben sollen.

(3) Para. 16 (p. 75) : Bei Vereinigung von 2 und mehr Familien soll der este auswählende Autor das Recht haben, den Namen der neuen Familie festzulegen.

(4) Para. 22 (p. 79-80) : Für Zulassung von Ausnahmen von der Regel, dass der Name der Familie vom Stamm der typischen Gattung gebildet wird, sind nur 11 von 14 Stimmen abgegeben worden.

Annexe to Statement furnished by Professor Dr. Hering

Views of Dr. WALTER FORSTER

(*Zoologische Sammlung des Bayerischen Staates, München, Germany*)

Herr Dr. Walter Forster von der Zoologischen Sammlung des Bayerischen Staates teilt als Ergebnis der Befragung von 12 Mitgliedern des zoologischen Stabes des Museums München mit, dass die genannten Vorschläge mit 11 von 12 Stimmen unterstützt werden, mit den folgenden Bemerkungen :

(1) Para. 11 : Das Recht der Festlegung des typischen Genus für die Familie hat der erste auswählende Autor.

(2) Para. 16 : Bei Vereinigung von Familien soll der neue Familienname der Name der Familie mit dem ältesten Genus sein.

(3) Para. 22 : Die Zulassung von Ausnahmen wird unterstützt.

DOCUMENT 3/25

By RAYMOND C. MOORE
(*University of Kansas, Lawrence, Kansas, U.S.A.*)

Letter dated 22nd June 1953

You should receive by any day—perhaps already have —copy of a Circular which I asked my secretary in Lawrence to mail you when she distributed copies to TREATISE authors. This deals with the subject of nomenclature of familial categories primarily and represents my considered judgments set forth as basis for handling organisation of TREATISE taxonomic manuscripts. You will see that reference is duly made to proposals published by you in the *Bulletin of Zoological Nomenclature*, a majority of your recommendations intended for consideration of zoologists and attention by the Copenhagen Congress being adopted. I dissent from the form of citation which you have proposed for emended familial names in some particulars, chiefly because it seems that your form constitutes in effect an attribution retrospectively to original authors. This is objectionable, although the principle of ascribing equivalence to date of original publication (based on choice of an indicated type genus) for purposes of priority, seems very desirable and sound.

I should like especially to call to your attention the matter of recommended terminations for various familial categories, as given in the Circular mentioned :

Superfamily, -icae	Supertribe, -ices
Family, -idae	Tribe, -ides
Subfamily, -inae	Subtribe, -ines

This scheme, independently devised by some American zoologists, I learn, has advantages of consistency and mnemonic nature. In paleontology, the superfamily ending -acea (not noticed in your paper) has so far had widest general adoption. I find that various TREATISE authors already approached have readily agreed to use -icae for superfamily assemblages, and I think that this will be adopted generally, if not exclusively, in the TREATISE. I have not undertaken to impose " law " in this regard, when none yet exists.

Annexe to Professor Raymond C. Moore's Letter of 22nd June 1952

TREATISE ON INVERTEBRATE PALEONTOLOGY
Directed and edited by Raymond C. Moore

CIRCULAR 6, SECTIONS 1-4, 10th JUNE 1952

Outline and Summary

1. INTRODUCTION. Purpose of circular is mainly to outline *Treatise* procedure in dealing with familial names. Brief notes are added concerning preparation of illustrations, abbreviation of authors' names, and progress of the project (p. 4).

2. HEMMING PROPOSALS ON NOMENCLATURAL PROCEDURE FOR SUPRAGENERIC CATEGORIES. Revision of Rules suggested for action by Copenhagen (1953) Congress; provides for recognition of six categories between genus and suborder, all treated as nomenclatorially co-ordinate, and suggests codification of nomenclature applied to divisions higher than superfamily in rank (p. 4).

3. NOMENCLATURAL PROCEDURE FOR FAMILIAL CATEGORIES IN TREATISE.

3.1. *Categories of familial names.* Dependent on taxonomic requirements, authors may recognise at their option assemblages of genera classed as: (*a*) superfamily, (*b*) family, (*c*) subfamily, (*d*) supertribe, (*e*) tribe, and (*f*) subtribe (p. 5).

3.2. *Formation of familial names.* To the stem of the name of a chosen type genus endings which specify individual familial categories are to be added (p. 5).

3.21. *Recognition of generic stem.* In names of classic origin, the stem normally consists of the genitive form less the terminal vowel (or diphthong) or terminal vowel followed by consonant. The stem of indeclinable names comprises the whole name (p. 5).

3.22. *Endings of familial names.* Besides prescribed endings (marked *), those recommended for adoption in the *Treatise* are :—

Superfamily, -icae	Supertribe, -ices
*Family, -idae	Tribe, -ides
*Subfamily, -inae	Subtribe, -ines (p. 6)

3.23. *Names not available for familial assemblages.* These include: (*a*) names not Latin or Latinized, (*b*) names not founded on generic names, (*c*) names not originally of suprageneric rank, (*d*) junior homonyms and synonyms, (*e*) names based on a type other than that having priority of designation, and (*f*) names based on invalid emendations of generic names (p. 7).

3.3. *Inter-relationships of familial names.* The various categories of familial names are to be treated as nomenclatorially co-ordinate (p. 8).

3.31. *Superfamily names.* Except that authorship and priority are based on original publication as proposed superfamily, this category is subject to same rules as apply to other familial assemblages (p. 8).

3.32. *Family and subfamily names.* A name originally published with ending -idae may be changed to -inae, or vice versa, author and date being cited as of the original publication (p. 8).

3.33. *Supertribe, tribe, and subtribe names.* Names published for any of these categories, consisting of the stem of the name of the chosen type genus combined with a letter or letters to form a selected ending, may be employed to designate a subfamily by substitution of -inae for the ending of the name published, or to designate a family by substitution of -idae for the ending of the name published. Likewise, changed assignment of rank among supertribe, tribe, and subtride may be made at will, with change of endings as desired. Author and date cited for the assemblage revised in rank or in form of ending without change in rank are as in the original publication (p. 9).

3.4. *Priority as guide in selection of familial names.* The first-published name shall be accepted unless it is unavailable. An effect of recognising co-ordinate status of familial names is that the stem of the generic name first published in designating a subfamily or division of a subfamily must be used also in designating the family to which it belongs (p. 9).

3.5. *Emendation of familial names.* Change from originally published form of familial names is required (*a*) if the stem of the generic name is incorrectly used, (*b*) if the name of the type genus has been altered, and (*c*) if taxonomic rank assigned to the assemblage is changed as regards family and subfamily categories ; in addition, (*d*) change in form of endings of superfamily, supertribe, tribe, and subtribe categories is allowable and may be judged desirable (p. 9).

3.51. *Correction of stem.* This involves no change of stem but is necessary to co-ordinate familial names with those of type genera (Belosepiidae Gill, 1871, based on *Belosaepia*, must be emended to Belosaepiidae) (p. 9).

3.52. *Change of stem.* If the name of the type genus of a familial assemblage must be changed, as by reason of homonymy, the familial name also must be altered correspondingly (Geoteuthidae, Naef, 1921, based on *Geoteuthis* Naef, 1921 [*non* Münster, 1843], altered to Geopeltidae Altena, 1949, based on *Geopeltis* Altena, 1949, which replaced *Geoteuthis* Naef) (p. 9).

3.53. *Change of ending.* When taxonomic reassignment of a familial assemblage involves the categories of family or subfamily, change of ending of the familial name is mandatory. For categories other than family and subfamily, emendation in the form of endings of familial names is optional (p. 10).

3.6. *Citation of author and date of familial names.* The Rules stipulate that when the author of a zoological name is cited, no punctuation of any sort should intervene between zoological name and author's name, but the date may be enclosed in parentheses or separated by comma. Citation of some familial names offers problems, as follows (p. 10).

3.61. *Names emended by correction of stem.* Retrospective attribution of such changes to the original author and date, although considered allowable by some, is judged unacceptable, but because no change of type genus is introduced, the emended familial name is assigned priority status of the incorrect original name. Example of form of *Treatise* citation : Belosaepiidae Bairstow, 1952 (=emend. Belosepiidae Gill, 1871) (p. 11).

3.62. *Names emended by change of stem.* Retrospective attribution of such changes to the original author and date is agreed by almost everyone to be unacceptable, but because no change in identity of the type genus is introduced, the emended familial name is assigned priority status of the nomenclatorially invalid original name. Example of form of *Treatise* citation : Geopeltidae Altena, 1949 (=emend. Geoteuthidae Naef, 1921) (p. 11).

3.63. *Names emended only by change of ending.* Citation should be to original author and date. Recommended *Treatise* form : Aulacoceratidae Mojsisovics, 1902 (as Aulacoceratinae) (p. 11).

3.64. *Superfamily names.* Author and date to be cited should refer to earliest proposal of the superfamily name as such, but if ending is altered, *Treatise* form recommended is : Fungiicae Vaughan & Wells, 1943 (as Fungioidea) (p. 12).

3.65. *Family names.* Author and date to be cited should refer to first-published proposal of family or suprageneric subdivision of family, modified in manner given by 3.61, 3.62, or 3.63 if called for (p. 12).

3.66. *Subfamily names.* Author and date to be cited should refer to oldest publication in which any genus assigned to the subfamily was proposed as type of a familial assemblage. A nominotypical subfamily has the same type genus as that belonging to the family, and citation of such subfamily refers to the same author and date as for the family ; whether the author of the family recognised subfamilies or not is immaterial. Example : the family Astrocoeniidae Koby, 1890, contains the nominotypical subfamily Astrocoeniinae Koby, 1890 (not to be cited as Astrocoeniinae Felix, 1898, although he first published such subfamily name) (p. 12).

3.67. *Supertribal, tribal, and subtribal names.* Considerations stated in 3.66 apply in identical manner to each category of these names (p. 13).

3.7. *Examples of procedure in nomenclature of familial assemblages* (p. 13).

4. NOMENCLATURAL PROCEDURE FOR SUPRAFAMILIAL CATEGORIES IN TREATISE. Authors are to use own judgment ; no standard endings or other features of nomenclature (p. 14).

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1. Introduction

Preparation and distribution of this Circular has been delayed unavoidably by pressures on the Editor while absent from the University of Kansas. Although nearly full-time work by his secretary, Mrs. Ruth Breazeal, has been devoted to *Treatise* matters, difficulties are evident when one remembers that she is in Lawrence and since July 1951 the Editor has been in Europe, with only a portable typewriter and a supply of paper to aid him. The volume of work done is measured only vaguely by statement that postage costs at the Editor's end of the line have averaged nearly 40 dollars per month, mostly but not all on *Treatise* business. As much time as possible has been given to various manuscripts. Questions brought to attention by some of this work, as well as problems broached in correspondence, are treated in the present Circular. Before decisions could be reached, however, many letters had to be written for the purpose of consultations. Special effort has been made to avoid hasty conclusions which might lead to unwise policies in shaping taxonomic sections of *Treatise* manuscripts. Authors are asked to co-operate with the Editor in achieving uniformity among the various divisions of the *Treatise* by adopting procedures set forth in Circulars 5 and 6. Presumably, it is unnecessary to add that this is a request, rather than a direction, for if an author dissents, he may proceed otherwise, but in such case concise written statement of reasons for the dissent should be submitted.

2. Hemming Proposals on Nomenclatural Procedure for Suprageneric Categories

Many questions arise, especially in dealing with suprageneric taxonomic categories, concerning which the Rules are virtually silent. The March 1952 issue of the *Bulletin of Zoological Nomenclature* (vol. 7, pt. 3, pp. 61-94) contains proposed clarification, amendment, and expansion of the Rules relating to names of families and subordinate categories of suprageneric rank, but these proposals are simply suggestions offered as basis for advice sought from zoologists on formulating provisions which may be adopted by the International Congress of Zoology scheduled to meet in Copenhagen in 1953. The *Treatise* cannot wait on adoptions made at this Congress, even though parts of the *Treatise* will not yet be finished at that time. We must formulate our own procedures as well as we can, at least for first-issued parts of our publication, trusting that they are not greatly different from Rules which ultimately will be introduced. The draft of proposals by Mr. Francis Hemming, Secretary of the International Commission on Zoological Nomenclature, includes superfamilies in the bracket of categories treated in the reference just given, and he recommends that name of superfamilies should be co-ordinate with names published as family, subfamily, and smaller suprageneric groups (p. 89).

Through kindness of Mr. Hemming, galley proof of a paper drafted by him for publication in *B.Z.N.* later in 1952 has been furnished to the *Treatise* Editor. This deals with problems requiring consideration if naming of taxonomic categories higher in rank than superfamilies is to be included among provisions of the Rules. The contents of this discussion are of smaller concern to *Treatise* authors than that dealing with suprageneric categories ranging upward to

superfamilies, because resolution of problems and formulation of acceptable Rules for naming phyla, subphyla, classes, subclasses, orders, and suborders are not likely to be achieved soon. Many paleontologists and other zoologists judge that nomenclature of ordinal and higher categories should not be subjected to stipulation imposed by Rules.

3. Nomenclatural Procedure for Familial Categories in Treatise

3.1. *Categories of Familial Names*

Families and *subfamilies* are recognised in the current Rules. Assemblages of families designated as *superfamilies* have come to be recognised widely in many divisions of the animal kingdom and provisions concerning their nomenclature undoubtedly will be incorporated ultimately in revised Rules. Also, taxonomists working on many groups have found need to recognise groups of genera within subfamilies, such groups being presumed to be somewhat closely inter-related and having phylogenetic significance ; commonly, the groups judged to be intermediate in rank between genus and subfamily are termed *tribes*. A few divisions of animals, chiefly arthropods and mollusks among invertebrates, may call for still other categories below rank of subfamily and above that of genus ; these are appropriately termed *supertribe* and *subtribe*. The term supergenus, used by some zoologists, is considered to be synonymous with subtribe, the latter being preferable. Although present Rules do not recognise these tribal categories, it is very likely that they will be incorporated in provisions of future Rules (*B.Z.N.*, vol. 7, pt. 3, pp. 86-89). Thus, listing of familial categories in descending order of rank may be given as (*a*) superfamily, (*b*) family, (*c*) subfamily, (*d*) supertribe, (*e*) tribe, (*f*) subtribe. The expression " familial names " will be used in this Circular to designate all categories of names from subtribe (or supergenus) to superfamily, inclusive.

3.2. *Formation of Familial Names*

The Rules now provide for the manner of forming family and subfamily names but not other familial names. The following suggestions accord with regulations judged likely to be incorporated in revised Rules (except for unforeseeable stipulations as to terminations of various categories which may be adopted) and to the extent that they are accepted by *Treatise* authors, uniformity of procedure will appear in our publication. A general requirement is that all categories of familial names shall be formed by addition of some letter combination as ending, this combination being joined to the stem of the name of a generic name which is (directly or indirectly) type of the assemblage.

3.21. *Recognition of generic stem.* An essential feature in construction of familial names is correct determination of the stem of the generic name, because addition of -idae, -inae, or other adopted endings for familial categories to differently conceived stems leads obviously to different familial names. For example, published family names Streptelasmidae, Streptelasmaidae, Streptelasmatidae all employ the ending -idae joined to differently conceived stems of the type genus *Streptelasma*. The problem of correct determination of the

generic stem is mostly a simple one, but unfortunately difficulties and errors are numerous. In generic names consisting of classic words (Greek or Latin), compounds of such words, or modeled in form on such words (Latinized), the rule for determination of the stem is to take what is left after dropping the terminal syllable (vowel or diphthong, or terminal vowel followed by consonant or consonants) from the genitive form of the word. Various classical words, however, are indeclinable and the stem comprises all of such words; generic names consisting of barbaric words or arbitrary combinations of letters likewise generally are indeclinable. The following tabulation gives some examples in which the terminal syllable of the name and its genitive form is underlined* and the stem of a family name based on it is printed in capitals; words of most common type are marked by an asterisk.

Name and gender	*Genitive form*	*Family name*
Abb*a* (m)	Abbat*is*	ABBATidae
*Abamit*a* (f)	Abamit*ae*	ABAMITidae
Ablegmin*a* (n)	Ablegmin*um*	ABLEGMINidae
Acroam*a* (n)	Acroamit*is*	ACROAMITidae
Abazei*a* (n)	Abazeor*um*	ABAZEORidae
Acarn*an* (m)	Acarnan*is*	ACARNANidae
Ab*as* (m)	Abant*is*	ABANTidae
Abb*as* (m)	Abbat*is*	ABBATidae
*Abanti*as* (f)	Abantiad*is*	ABANTIADidae
*Absurdit*as* (f)	Absurditat*is*	ABSURDITATidae
Abrax*as* (f)	Abrax*ae*	ABRAXidae
*Ab*ax* (m)	Abac*is*	ABACidae
Abal*e* (f)	Abal*es*	ABALidae
*Abdomen (n)	Abdomin*is*	ABDOMINidae
*Ac*er* (n)	Acer*is*	ACERidae
Abandiad*es* (m)	Abandiad*ae*	ABANTIADidae
*Achaemenid*es* (m)	Achaemenid*is*	ACHAEMENIDidae
Absyrtid*es* (f)	Absyrtid*um*	ABSYRTIDidae
Aci*es* (f)	Aci*ei*	ACIEidae
*Abi*es* (n)	Abiet*is*	ABIETidae
Abal*i* (m)	Abalor*um*	ABALORidae
Abar*is* (m)	Abar*is*	ABARidae
Abneptis (f)	Abneptis	ABNEPTidae
*Abaesamis (f)	Abaesamid*is*	ABAESAMIDidae
*Abdicatrix (f)	Abdicatric*is*	ABDICATRICidae
*Abactio (f)	Abaction*is*	ABACTIONidae
*Absumedo (f)	Absumedin*is*	ABSUMEDINidae
*Acheron (m)	Acheront*is*	ACHERONTidae
*Abact*or* (m)	Abactor*is*	ABACTORidae
Abnepos (m)	Abnepot*is*	ABNEPOTidae
Acanos (m)	Acan*i*	ACANidae
Acinos (f)	Acin*i*	ACINidae
*Abluvi*um* (n)	Abluv*ii*	ABLUVIidae
Acher*uns* (m)	Acherunt*is*	ACHERUNTidae

*Ed. Note.—In printing this document italics have been substituted for underlining.—F.H.

*Abac*us* (m)	Abac*i*	ABACidae
Abnur*us* (f)	Abnur*us*	ABNURidae
Acl*ys* (f)	Aclid*is*	ACLIDidae
*Elasm*a* (n)	Elasmat*os*	ELASMATidae
Abad*an* (m)	(Indeclinable)	ABADANidae
Abac*uc* (m)	,,	ABACUCidae
Abdenag*o* (m)	,,	ABDENAGOidae
Abarim*on* (m)	,,	ABARIMONidae
Abessal*om* (m)	,,	ABESSALOMidae
Abn*er* (m)	,,	ABNERidae
Abraxar*es* (m)	,,	ABRAXARESidae

3.22. *Endings of familial names.* Because the prescribed endings of names for families and subfamilies are in form of feminine plurals (-idae, -inae), the ending of names of superfamilies suggested for use in the *Treatise* has similar form. For this category, -icae is chosen because it closely follows the form of adopted family and subfamily endings, but does not resemble either of them when pronounced (for example, -itae may not be distinguishable from -idae when spoken). The endings -acea and -oidea, which have been used considerably for superfamilies do not have terminal -ae, which seems desirable, and the ending -aceae (suggested in Circ. 2 as modification of -acea) has been little used as yet in zoological nomenclature, although well known as applied to plants. The superfamily ending -oidae, used by some taxonomists, is objectionable because it conduces confusion, especially when joined to the stem of some generic names ending in -o (as ABEDNAGOidae, par. 3.21). For names of tribal categories (supertribe, tribe, subtribe) no endings have come into common use, although *B.Z.N.* (vol. 7, pt. 3, p. 87) refers to habitual use of -ini as termination of the names of tribes. This seems objectionable because it is indistinguishable from -inae when pronounced ; also, memory is aided by employing comparable letter combinations to denote " super," " main," and " sub " categories. The schedule here suggested is shown in the following tabulation, but attention is called to the point that adoption by *Treatise* authors is voluntary.

Superfamily, -icae	Supertribe, -ices
Family, -idae	Tribe, -ides
Subfamily, -inae	Subtribe, -ines

Examples : Superfamily Stauriicae ; Family Stauriidae ; Subfamily Stauriinae (genus *Stauria*).

3.23. *Names not available for familial assemblages.* Although present Rules do not offer clear guidance on questions of admissibility of various names published for familial categories, the following statements of policy are proposed for adoption by *Treatise* authors.

3.231. *Names not Latin or Latinized.* According to Art. 3, the scientific names of animals must be words that are Latin or Latinized. Thus, designations like orthids (English), Pisokrinoiden (German), and Aulacocératidés (French) are not admissible as familial names ; likewise Famille Syringoporiens Fromentel, 1861, cannot be accepted without emendation.

When and if such non-Latin names are published in Latinized form, they should not be attributed retrospectively to the author who used the non-Latin name, but to the subsequent person who first published an acceptable Latinized word.

3.232. *Names not founded on generic names.* The stipulation given in Art. 4 of the Rules that names of families and subfamilies must be formed by adding specified endings to the stem of a generic name serves to invalidate familial names formed otherwise, and provision that names of all familial categories shall be treated as co-ordinate (see paragraph 3) extends the stipulations to superfamily and tribal names. Thus, Hastatidae Stolley, 1919, is not valid because there is no corresponding generic name (derivation presumably based on a " section " of broad genus *Belemnites* called Hastati, after the species *Hibolites hastatus*).

3.233. *Names not originally of suprageneric rank.* Art. 4 implies that names of generic or lower rank are ineligible as names of familial categories (although the stem of a generic name is used in forming such familial names). Thus, subdivisions of a genus called Clavati, Canaliculati, Hastati, etc., based on the trivial names of species, cannot be accepted as suprageneric names.

3.234. *Junior homonyms and synonyms.* Familial names formed from the stem of generic or subgeneric names which are themselves not accepted as valid in zoological nomenclature are naturally inadmissible. Such invalid generic and subgeneric names include junior homonyms and junior objective synonyms. Not necessarily invalid are junior subjective synonyms, but generic and subgeneric names in this category are not acceptable as bases for familial names unless they are removed from synonymy.

3.235. *Names based on a type other than that having priority of designation.* This does not mean necessary choice of the first-published generic or subgeneric name among those included in a familial assemblage, but that having priority of designation as type of such an assemblage.

3.236. *Names based on invalid emendations of generic and subgeneric names.* So exceptional are circumstances which allow change of any sort in form of a generic or subgeneric name as originally published that a safe, general rule is to consider emendation invariably unallowable. This means that the originally published name, whatever its faults, is the only valid name (see Circ. 4, p. 9). A recent discussion by R. Richter (*Senckenbergiana*, vol. 32, pp. 357-366, 1952), which contains numerous examples of adjudged invalid emendations, develops the theme " Quo modo impressum est nomen maneat "—in whatever manner a name is printed, let it stand. This extends in Richter's view, even to incorrectly spelled dedication of names to specified persons (for example, *Zittelloceras* Hyatt should retain this spelling, even though original description indicates that the genus is named for Karl von Zittel). Unless emendations are made by action of the Commission on Zoological Nomenclature, stability of nomenclature is disturbed. Attention may be called to the point that names derived from languages using diacritical marks involve several special problems, some of which

are complicated by unavailability of type characters for diacritically marked letters in many printing establishments. Whenever possible, diacritical marks should be employed as enjoined by Art. 20 of the Rules, but it is altogether permissible to substitute *oe* for ö or ø, *ue* for ü, and *aa* for å. As emphasised by Richter, such letters as ö, ø, ü, and å are wholly different characters from *o*, *u*, and *a* and cannot be transliterated or replaced by these letters. (For example, *Mülleria* may be written as *Muelleria*, but not as *Mulleria* ; *Westergårdia* may be written as *Westergaardia*, but not as *Westergardia*.) The import of this subparagraph is that an invalid emendation of *Zittelloceras* to *Zitteloceras* cannot be recognised in forming a familial name (Zittelloceratidae being correct and Zitteloceratidae being incorrect).

3.3. *Inter-relationships of Familial Names*

It is desirable to give attention next to inter-relationships for nomenclatural purposes of familial names recognised.

3.31. *Superfamily names.* Like other familial names, a proper requirement is that the name of a superfamily shall be formed by adding a termination other than -inae and -idae to the stem of the generic name which constitutes the type of the type family of the superfamily. It seems logical to propose (as in *B.Z.N.*, vol. 7, pt. 3, pp. 89, 90) that the names of superfamilies should be treated as co-ordinate with family names and that except for qualification of holding rank for priority by reference to their dates of publication as such (not by reference to the dates of publication of their type families), rules applied to names of superfamilies should be the same as for names of families. Procedure in this manner is suggested as *Treatise* policy.

3.32. *Family and subfamily names.* Although Art. 6 of the Rules prescribes that generic and subgeneric names are co-ordinate with one another and Art. 11 makes similar provision in respect to specific and subspecific trivial names, no such stipulation is given for family and subfamily names. Logical extension of existent Rules, however, strongly supports general practice in regarding family and subfamily names as co-ordinate ; revised Rules almost surely will establish formally such co-ordination. Thus, a name originally published as a family name, ending in -idae, may subsequently be recognised as a subfamily name by changing the termination to -inae, and a name originally published as a subfamily name, ending in -inae, may subsequently be recognised as a family name by changing the termination to -idae ; author and date of establishing these units remain unchanged (see *B.Z.N.*, vol. 7, pt. 3, pp. 85-86).

3.33. *Supertribe, tribe, and subtribe names.* Subject to the requirement that names published for categories belonging between subfamily and genus in rank (supertribe, tribe, and subtribe, or equivalent units) shall be formed by addition of a selected termination to the stem of the name of a chosen type genus (see paragraph 3.22), the names of these categories should be treated as co-ordinate with those of families and subfamilies (*B.Z.N.*, vol. 7, pt. 3, pp. 87, 88). Thus, if the name Mesopleurides or some other based on the stem of the generic name *Mesopleura* were published by Jones, 1890, for an assemblage of genera regarded by him as lower in rank than subfamily, a

later author might recognise this name as applicable to a subfamily called Mesopleurinae or to a family called Mesopleuridae, with citation of author and date as Jones, 1890.

3.4. *Priority as Guide in Selection of Familial Names*

The principle of priority may be accepted as most sound basis (other things being equal) for stability in nomenclature at familial levels as at lower taxonomic levels, provided by Arts. 25-30 of the present Rules. Priority of publication as criterion for selection of familial names naturally must be restricted to available names, that is, those which are judged on other grounds to be eligible. As regards determination of priority of publication among names applicable to any familial category, it is important to note that (excepting names of superfamilies) a name originally published for any one of these categories is available for others and may be recognised on grounds of priority. Changed assignment of taxonomic rank simply requires alteration of the ending attached to the stem of the name of the type genus, author and date remaining unchanged. The import of this is that (just as no generic name may embrace subgeneric names having publication dates earlier than its own) no family name can be recognised with included subfamily or tribal names having publication dates earlier than itself.

3.5. *Emendation of Familial Names*

Adoption of the principles of priority and co-ordination as applied to familial names (except for separation of superfamily names as an independent category) requires that some of these names must be emended from the form of their original publication in order to conform to a changed taxonomic rank of the familial name or to agree with change in writing the name of the type genus. Thus, two sorts of alteration of familial names must be considered : those involving the stem and those which change the ending.

3.51. *Correction of stem.* Some published familial names are invalid because they are based on invalid emendation of the name of the type genus (for example, Belosepiidae Gill, 1871, based on invalid change from *Belosaepia* Volz, 1830, to *Belosepia*). Such familial names must be corrected to agree with the stem of the name of the type genus.

3.52. *Change of stem.* Whenever the name of the type genus of a familial assemblage is emended, as by reason of synonymy or homonymy, the name of the familial group must be changed if the stem of the generic name is altered. Art. 5 of the Rules stipulates this for families and subfamilies, but the provision may be extended to lower-rank assemblages. Indirectly, names of superfamilies are included also, because they are formed on the basis of the stem of the generic name which serves as type of the type family. All changes of familial names involving change of stem constitute introduction of new names and, as in publication of new names in similar circumstances for genera and species, these new familial names should be attributed to the author who first publishes the changed name and bear date of such publication. This procedure, however, obviously is opposed to stability in nomenclature because

priority held by the rejected name is sacrificed, despite the fact that the type genus on which it and the emended familial name are based is unchanged. A familial name which has been little used and is virtually unknown, based on a different type genus, is likely to have priority over the emended name. For example, Poteriocrinidae Roemer, 1843, has been emended to Poteriocrinitidae Bassler, 1938, on the basis of generic names which are objective synonyms (founded on the same type species), but Mollocrinidae Wanner, 1916, based on another genus included in the assemblage, is older than Bassler's emended name of the family, founded on the genus chosen by Roemer. Accordingly, proposal has been made (*B.Z.N.*, vol. 7, pt. 3, pp. 73, 74, 81, 82) that for the purpose of fixing priority, an emended familial name should date from the publication in which the type genus was originally indicated and not from the date of published emendation. This seems to be a very sensible and desirable provision—that priority in publishing the type genus of a familial assemblage and fixation of such type should take precedence over ritualistic application of a rule which commonly would require change in definition of the type genus. Present rules make no provision for such procedure, but proposal is made nevertheless to adopt it in the *Treatise*. Mode of citation is treated in paragraphs 3.61 and 3.62.

3.53. *Change of ending.* Whenever the assigned taxonomic rank of a familial name is different from that indicated in the original publication, the combination of terminal letters which is employed as sign of taxonomic rank is to be changed. Also, if the taxonomic rank remains unchanged but the originally published ending of the name differs from that now recognised as applicable to such rank, the name is to be altered by substituting the adopted different ending. Neither of these changes (except under certain conditions in forming a superfamily name) is construed to affect authorship and date of the familial name ; accordingly, the name in changed form is cited without any indication that it differs from the original publication. Thus, a tribe Martiini Smith, 1922 (type, *Martia* Adams, 1901) may become the tribe Martiides Smith, 1922 (same taxonomic rank but change in adopted ending), or Martiinae Smith, 1922 (reclassifying an assemblage of genera containing *Martia* as a subfamily), or Martiidae Smith, 1922 (reclassifying an assemblage of genera containing *Martia* as a family). Of course, modifications of the content of the assemblage by additions or removals of genera, or both, do not affect nomenclature of the group which includes the chosen type genus *Martia* as name-giver. Because it is judged advisable to treat superfamilies separately for purposes of determining authorship and priority, and because the type of a superfamily is one of its contained families, the name of a superfamily is not made by *changing* the ending -idae of its type family, for this latter persists ; it is formed by *introducing* an ending chosen to indicate superfamily rank. Priority and authorship of a superfamily are to be defined by first publication as such, without reference to the letter combination used as ending of the superfamily name in the original publication. A subsequent author may change this ending, but in such instance the assemblage retains its original author and date. Thus, the superfamily Fungioidea Vaughan & Wells, 1943. (based on Fungiidae Dana, 1848) may be altered to Fungiicae Vaughan & Wells, 1943 (as is actually done by Wells in his *Treatise* manuscript).

3.6. *Citation of Author and Date of Familial Names*

For scientific names of any category, the Rules provide for citation of the author who first published the name, omitting punctuation between the familial name and name of the author ; the date of original publication may be added enclosed in parentheses or separated from the author's name by a comma (Art. 22). This seems to be simple and clear. Citation of author and date in accordance with Art. 22 should be given for first-published name. Questions arise, however, in dealing with some familial categories, especially in cases of emended names.

3.61. *Names emended by correction of stem.* Although some authors judge that familial names which are incorrectly constructed (*a*) by reason by error in recognising the stem of the name of the type genus or (*b*) because they are based on an invalid " minor " emendation of the name of the type genus, may be corrected and cited under the author and date of the original publication, such practice is deemed unacceptable in the *Treatise*. This retrospective attribution is misleading and may involve undesirable subjective elements. Recommended form of citation in the *Treatise* for emendations of (*a*) type : Loliginidae Gill, 1871 (=emend. Loligoidea Lesueur, 1821) ; Octopodidae d'Orbigny, 1838 (=emend. Octopoda Férussac, 1821). For emendations of (*b*) type : Belosaepiidae Bairstow, 1952 (=emend. Belosepiidae Gill, 1871) ; Cirroteuthidae Bairstow, 1952 (=emend. Cirrhoteuthidae Keferstein, 1865). Originally published names *Belosaepia* and *Cirroteuthis* were subsequently incorrectly changed to *Belosepia* and *Cirrhoteuthis*. For purpose of priority assignment, dates of these families are reckoned as : Loliginidae 1821, Octopodidae 1821, Belosaepiidae 1871, Cirroteuthidae 1865.

3.62. *Names emended by change of stem.* As stated in paragraph 3.52, recognition (and hence citation) of the author and date of familial names emended by change of stem seems necessary ; such names cannot advisedly be attributed retrospectively to an earlier author and date as for names merely changed in ending (paragraph 3.53). A rule for definition of priority which provides that the emended name shall be ranked exactly equivalent to the name it replaces may be judged advantageous, but a rule which calls for citing the emended name as though published by the author of the name it replaces and as though published on the date of the replaced name cannot be supported. An example cited in *B.Z.N.*, vol. 7, pt. 3, p. 73 is Erycinidae Swainson, 1827, based on *Erycina* Fabricius, 1807, as type ; later, when discovery was made that this genus is a junior homonym of *Erycina* Lamarck, 1805, the substitute name *Riodina* Westwood, 1851, was introduced with the same type species as for *Erycina* Fabricius ; the family name Riodinidae Grote, 1895, still later was published to replace the invalid Erycinidae Swainson. Because Riodinidae is not the oldest available name for the family, if it ranks from 1895, Mr. Hemming (*B.Z.N.*, vol. 7, pt. 3, pp. 77, 82) proposes that priority should be determined by the publication date of original designation of the family type (i.e. *Erycina* Fabricius=*Riodina* Westwood), and he suggests as a desired form of citation : Riodinidae (Erycinidae) Swainson, 1827 ; or alternatively : Riodinidae (Erycinidae emend. Grote, 1895) Swainson, 1827. Neither of these are acceptable because they actually comprise retrospective attribution of the

name Riodinidae to Swainson who never heard of the name, and less importantly because the suggested form of citation contravenes Art. 22 of the Rules, which provides that the author's name should immediately follow the scientific name without intervening punctuation, etc. Form of citation suggested for adoption in the *Treatise*, using the example just considered, is : Riodinidae Grote, 1895 (=emend. Erycinidae Swainson, 1827). As here used, " =emend." signifies equivalent (in having the same type genus and publication date for designation of the type genus) to the nomenclatorially emended older family name, and it means that the substitute name is ranked for priority purposes as exactly equal to the emended name. The author of the invalid replaced name is not (and should not be) cited as author of the new name.

3.63. *Names emended only by change of ending.* Such names are to be cited using author and date of the original publication, exactly as if the familial name had been then printed with the ending now adopted. Recommended *Treatise* form of citation is : Aulacoceratidae Mojsisovics, 1902 (as Aulacoceratinae).

3.64. *Superfamily names.* The author and date to be cited in connection with superfamily names are those referring to the oldest publication in which the superfamily is proposed as such (see paragraph 3.31). Almost invariably, the author of a superfamily assemblage differs from that of the type family on which it is based, and the date of original publication are not the same. Emendation of superfamily names considered in paragraph 3.53 does not affect author and date, but if the stem of the generic name on which the type family is based requires change, publication of a substitute family name (paragraph 3.52) does not automatically extend to changing the superfamily name ; procedure in citing the altered superfamily name should be exactly analogous to that proposed in paragraph 3.62 for family names. Thus, if a superfamily Erycinoidea Smith, 1848, should have been published and no notice of it was taken by Grote when he introduced the new name Riodinidae for the type family in 1895, another author (say Holmes, 1900) might introduce an altered superfamily name, cited as : Riodinacea Holmes, 1900 (=emend. Erycinoidea Smith, 1848). Subsequent modification of the ending of the superfamily name would result in : Riodinicae Holmes, 1900 (=emend. Erycinoidea Smith, 1848).

3.65. *Family names.* The author and date to be cited in connection with family names are those referring to the oldest publication in which any genus included in the family is proposed as type of a familial assemblage (family, subfamily, or tribal category) and the stem of its name is used in forming the name of the familial unit. Thus, Mesopleuridae Jones, 1890, may be cited now on the basis of original publication as Mesopleurinae Jones, 1890, etc. (See paragraph 3.32.)

3.66. *Subfamily names.* The author and date to be cited in connection with subfamily names are those referring to the oldest publication in which any genus included in the subfamily is proposed as type of a familial assemblage. Two types of subfamily names call for notice.

3.661. *Nominotypical subfamily names.* Every family which is divided into subfamilies must have a nominotypical (*sensu stricto*) subfamily, which has as its type genus the same one which serves as type of the family. Because the name of the family is based on the generic name which among all included in the assemblage was first published as type of a familial category, this applies also to the nominotypical subfamily ; also, the author and date of the nominotypical subfamily are invariably identical with those of the family, without reference to whether the author of the family or some subsequent author introduced subfamily divisions. Thus, the family Astrocoeniidae Koby, 1890, contains the subfamilies Astrocoeniinae Koby, 1890, and Pinacophyllinae Vaughan & Wells, 1943 (*not* Astrocoeniinae Felix, 1898). Not acceptable is the view held by some authors that a nominotypical subfamily may have neither author nor date, being cited simply as Astrocoeniinae *sensu stricto*, on the ground that this assemblage may comprise simply the residue of the family (including the type genus) when one or more subfamilies based on genera other than the type are set apart ; every name recognised in zoological nomenclature was first published by some author on some date. Also, just as the nominotypical subgenus of a genus must be ascribed to the author who erected the genus and must bear the same date, a nominotypical subfamily cannot be attributed to an author other than the one who first selected the genus which serves family and nominotypical subfamily as type and it cannot bear a date subsequent to that of erecting the family.

3.662. *Other subfamily names.* Any genus included in a family, except that which serves the family and nominotypical subfamily as type, may constitute the type of another subfamily. The principle of priority demands, however, that if any genus included in a subfamily has previously been published as name-giver of a familial assemblage, the oldest available one must be recognised as type of the subfamily.

3.67. *Supertribal, tribal, and subtribal names.* The author and date to be cited in connection with supertribe, tribe, and subtribe names are those referring to the oldest publication in which any genus included in the assemblage is proposed as type of a familial category. The consideration affecting nominotypical subfamilies and other subfamilies apply in identical manner to tribal names.

3.7. *Examples of Procedure in Nomenclature of Familial Assemblages*

Following are a few examples, mainly based on data supplied in a memorandum by Mr. Leslie Bairstow on " Authors and Dates of Family and Subfamily Names." Conclusions are those of the *Treatise* Editor, presumed to accord with policy outlined in foregoing paragraphs.

3.71. *Family names based on Sepia.* Published initially as family names are : Sepiidea Leach, 1817 ; Sepiedea Lesueur, 1821 ; Sepiadae Owen, 1836 ; Sepidae d'Orbigny, 1837 ; Sepiidae Adams, 1858. Conclusion : citation should be Sepiidae Leach, 1817.

3.72. *Family names based on Octopus.* Published initially as family names are: Octopia Rafinesque, 1815; Octopoda Férussac, 1821; Octopidae d'Orbigny, 1837; Octopodidae d'Orbigny, 1838. The name Order Octopoda Leach, 1817, also was published. Conclusion: citation should be Octopodidae Férussac, 1821 (for stem is Octopod-, not Octop-).

3.73. *Family name based on Belosaepia.* Original publication of the generic name was *Belosaepia* Volz, 1830; the name *Belosepia* Volz, 1830 (published later in the year) is invalid for it is an objective junior homonym of *Belosaepia* (Art. 35 of Rules; see marginal note 82, Circ. 4, p. 18). The family name Belosepiidae Gill, 1871, is invalid because no valid generic name *Belosepia* exists for designation of the family type. No record is given by Bairstow as to publication of the correct family name, Belosaepiidae. If it is yet unpublished, a proper entry in the *Treatise* would be Belosaepiidae Bairstow, 1953 (=emend. Belosepiidae Gill, 1871).

3.74. *Family name based on Cirroteuthis.* Just like the case cited in 3.73. *Cirroteuthis* Eschricht, 1838, incorrectly changed to *Cirrhoteuthis* Möller, 1842 (objective junior synonym); family name published as Cirrhoteuthidae Keferstein, 1865. Assuming no other equivalent family name published, this might be recognised in *Treatise* as Cirroteuthidae Bairstow, 1952 (=emend. Cirrhoteuthidae Keferstein, 1865).

3.75. *Family name based on Loligo.* Incorrect family names based on *Loligo* are Loligoidea Lesueur, 1821, and Loligidae d'Orbigny, 1837; the correct name Loliginidae was first published by Gill in 1871. Citation in the *Treatise*: Loliginidae Gill, 1871 (=emend. Loligoidea Lesueur, 1821).

3.76. *Familial names based on Cypridina.* The genus *Cypridina* Milne Edwards, 1840, was chosen as type of a family called Cypridinadae by Baird, 1850, and published first as Cypridinidae by Brady, 1868; Dana in 1852 made first reference to a subfamily named Cypridininae, and Skogsberg in 1920 defined a superfamily called Cypridiniformes. Procedure outlined in this Circular leads to recognition of Superfamily Cypridinicae Skogsberg, 1920; Family Cypridinidae Baird, 1850; Subfamily Cypridininae Baird, 1850 (not Superfamily Cypridinicae Sylvester-Bradley, 1953; Family Cypridinidae Brady, 1868; Subfamily Cypridininae Dana, 1852).

3.77. *Family name based on Diplobelus.* The generic name *Diplobelus* Naef, 1926, is an objective junior synonym of *Diploconus* Zittel, 1868 [*non* Haeckel, 1860] but valid because of the unavailability of Zittel's designation of the genus. Therefore, Diploconidae Naef, 1922, must be replaced by Diplobelidae Naef, 1926. The suggested form of citation in the *Treatise* is: Diplobelidae Naef, 1926 (=emend. Diploconidae Naef, 1922).

3.78. *Family name based on Geopeltis.* The family name Geoteuthidae Naef, 1921, based on *Geoteuthis* Naef, 1921 [*non* Münster, 1843] must be replaced by Geopeltidae Altena, 1949, based on *Geopeltis* Altena, 1949, which is an objective junior synonym of Geoteuthis Naef. *Treatise* citation: Geopeltidae Altena, 1949 (=emend. Geoteuthidae Naef, 1921).

4. Nomenclatural Procedure for Suprafamilial Categories in Treatise

In choosing names for designation of suborders and higher taxonomic categories, *Treatise* authors are to use their own best judgment, no standard endings for these ranks having been adopted. It is desired, however, that the author and date of first publication of terms used shall be included in manuscript.

DOCUMENT 3/26

By JOSHUA L. BAILY, Jr.
(*San Diego, California, U.S.A.*)

Statement received on 24th June 1952

The name of a family should always be derived from that of its typical genus. The proposal of a family name should always be construed as a designation of the genus from which the family name has been derived as the typical genus of the family, and the designation of a genus as typical of a family should be construed as a proposal of a family name derived from that of the genus. Possibly some confusion may result temporarily from a strict application of such a rule, but the final result will be beneficial.

I know of only three instances of family names not derived from the name of their typical genera ; in each instance the family name has been rejected in favor of one formed from that of the typical genus and this step has met with universal approval. The first of these is the STREPOMATIDAE. When Tryon published his monograph of this family in the *Smithsonian Miscellaneous Collections* in 1873 he used the name *Pleuocera* instead of *Strepoma* because *Pleurocera* was first published, but he called the family STREPOMATIDAE. However, by common consent this name has been abandoned in favor of PLEUROCERIDAE. Incidentally, the last name is badly formed ; the name of the genus is not Latin but Greek, and the family name should be PLEUROCERATIDAE ; when it is decided to establish an *Official List of Family Names* and a corresponding *Official Index of Rejected and Invalid Family Names*, I shall request that these two names be placed on the appropriate lists to validate PLEUROCERATIDAE and reject PLEUIOCERIDAE.

The next family is the CYPRINIDAE, from its typical genus *Cyprina*. The rules require that the family name can be changed only when the name of the typical genus is changed. In this case *Cyprina* dates from Lamarck 1822. An earlier name for the same genus is *Arctica* Schumacher, 1817. In the English translation of Zittel's *Textbook of Paleontology* by Eastman this family has been renamed PLEUROPHORIDAE, changing not only the family name but also the genus from which the name is to be derived. I should think ARCTICIDAE would have been a preferable name.

The third family is the TETHYMELIBIDAE, named for two of its genera, *Tethys* and *Melibe*. At the time this family name was first devised, the name *Tethys* was an illegal one for this genus, which was properly called *Fimbria* ; recently the Commission has suppressed the name *Fimbria* and an earlier use of *Tethys*—and has validated the name *Tethys* for this genus. But since the family name TETHYMELIBIDAE goes back at least as far as the Cambridge Natural History of 1895, long before the validation of *Tethys*, it would seem to me that MELIBIDAE would be the preferable name for the family. I would request that a rule be adopted to make the family name agree with the generic name of the typical genus in every instance, and the designation of either a family name or a typical genus of a family be construed to include the other, and that the three families hereinabove discussed be known hereafter as PLEUROCERATIDAE, ARCTICIDAE, and MELIBIDAE.

Para. **16**

The name to be given to a family in cases where that family is formed by uniting two previously established families should be the older of the two family names concerned. Three alternatives are discussed in the *Bulletin*. One is that the name of the composite family should be derived from that of its oldest genus ; another is that the name of the family used by the first reviser should stand. These possibilities, after discussion, were rejected on adequate grounds. I am in complete sympathy with this argument. But the third possibility, which is recommended in the *Bulletin*, seems to me equally objectionable, because it contains the modifying phrase " each family for this purpose being identified by the type species of its type genus." I believe that the older of the two family names be accorded priority irrespective of whether a type species has ever designated for its type genus. I cannot recall any instance of the union of two families except where originally there was but one, subsequently divided, in which case the union of the two resultant families simply restores the original single family. In such a case the original name should be restored as well, but the ruling recommended in the *Bulletin* might make it necessary to use a new name and discard the original one. It might easily be that the younger of two family names might be derived from the first genus to have a type species designated, we would then have to use the younger of the two family names. This would unnecessarily complicate matters, since there is no similar requirement for a family formed in any other way.

Para. **34**

The use of the expression " tribe " for a group below the family level is to be deprecated. In ordinary parlance, a tribe is a group of families, such as a tribe of Indians, or the tribes of Israel. In zoological nomenclature the same usage has been established, and a new meaning for the term is not desirable. Also the statement that the termination " -INI " for tribes is commonly accepted is probably not correct. I do not recall ever having encountered a tribe having that termination. Some tribes take the ending " -GLOSSA," some " -SIDA," some " -MORPHA," and some " -GNATHA," according as to the anatomical feature upon which the tribe is based. I do not recommend any change in the present practice.

Para. **40**

The statement that the names of superfamilies generally have the termination " -OIDEA " surprises me. The only work that I can now recall in which this termination has been used is Hannibal's work on the fresh water Mollusca of California which he published in the *Proceedings of the Malacological Society of London*. Every other writer, as far as I know, uses the termination " -ACEA " for superfamilies. This is a practice which I would like to have perpetuated.

Para. **43**

There seems to be no good reason for establishing *Official Lists* for names of categories above the genus level. Species exist in nature ; rules governing the names of such are necessary, and *Official Lists* are helpful. Specific names include generic names, so that similar provisions are needed for them. Family names are based upon generic names, and rules may be needed, but I am dubious

as to value of an *Official List of Family Names*. In any case, families do not exist in nature and their names are not included in specific names. And names of higher categories are merely names of mental conceptions. To compile lists of official names of these conceptions is likely to get the commission into the business of legislating on matters that are not exclusively nomenclatorial, by perpetuating, not objects or names, but mental conceptions.

DOCUMENT 3/27

Statement of the views of the scientific staff of the
ROYAL ONTARIO MUSEUM OF ZOOLOGY AND PALAEONTOLOGY, TORONTO, CANADA

Enclosure to a letter dated 26th June 1952, from Dr. F. A. Urquhart, Director

(For the text of the above letter, see Document 1/39)

Family Names (Commission's Reference Z.N.(S.)357)

OUR PROPOSED SUGGESTION

One of the great difficulties facing systematic workers who are involved in university lectures is to plan an adequate course which will give the students some basic idea of the importance of Latin and Greek in the formation of our scientific words. We realise that a short course is most inadequate and leads to all sorts of difficulties. May we therefore make the following simple suggestion ?

If such is possible (and we realise the difficulties that would be involved) we would propose two alternatives :—

(a) that a set of rules be arranged by a committee, set up for this purpose, which rules will apply to the formation of scientific names throughout the field of systematic zoology. These rules would perhaps have a part bearing upon Greek and Latin and in part on modern usage. Perhaps a scheme similar to that proposed by Dr. Blackwelder might be formulated ;

(b) that the ending of all names for genera, species and subspecies be made constant. We realise that this would be a very drastic change and perhaps an oversimplification. However, in view of the fact that we now have uniform endings for the names for sub-families, families and tribes, we feel justified in suggesting that we go still further and have uniform endings for names for the genus, species and subspecies. After considerable discussion, we came to the conclusion that the ending of the name for a genus, species or subspecies added nothing to the word itself except considerable difficulties in ascertaining the gender of the word concerned. We were also of the unanimous opinion that our major interest was in the object and not in the word applied to the object. Whether the word in its derivation is masculine or feminine we feel adds absolutely nothing to whether the animal concerned is masculine or feminine. In view of the fact that the vast majority of our specific names, particularly in invertebrate zoology, end in either

"us," "a" or "um" we proffer the following suggestion: that all generic names might end in "us," that all specific names might end in "a" and subspecific names in "um."

This discussion may have only a partial bearing upon the problem of family names discussed under the Commission's reference number Z.N.(S.)357. However, it is discussed at this point since it has a definite bearing on family and subfamily names.

We unanimously agree with your conclusion given at the end of paragraph **11,** on page 71 of volume 7, part 3.

We unanimously agree that the general rule would be that a name is to be treated as having been published as a family name only when the term used for this purpose was formed with the termination "-IDAE."

We unanimously agree that this scheme might make it clear that a family name is not subject to change when the nominal genus upon which it is based is subjectively identified with another nominal genus having an older available name, and to make this subject to the proviso that, where specialists in the group concerned desire that in such a case the name of the family concerned should be changed, it shall be open to them to make application to the Commission accordingly.

We unanimously agree that, of the two methods discussed by you for determining which of two or more competing family names should be accepted in preference to the others, we prefer the mechanism of the first reviser, as described by you in paragraph **19,** page 77 of volume 7, part 3.

We could not appreciate the force of the objections advanced by Professor Jeannel.* It is our unanimous opinion that the ending of the word is not the significant part of the word in so far as the particular object is concerned. Whether the word is masculine or feminine is, in so far as we are concerned, of very little importance.

We unanimously agree with your recommendation as given at the bottom of paragraph **32,** page 85 of volume 7, part 3.

We unanimously agree that the name of a tribe is to be formed by the addition of the termination "-INI" to the stem of the name of the type genus of the tribe concerned and that the names of tribes are to be subject to the same rules as, and are to be co-ordinate with, the names of families and subfamilies.

We unanimously agreed that we have not found it convenient to recognise the category "supergenus." However, we are well aware of its present usage and the degree of variation in its application. We would however be agreeable to any conclusions which may be presented to you from those who have consistently used the supergenus and wish to have it included in the rules.

We unanimously agree that the revised scheme should contain a provision prescribing that the name of a superfamily is to be formed by adding the termination "-OIDEA" to the stem of the name of the type genus of one of the included families. Further, that the names of superfamilies shall be co-ordinate with the names of families and that such names shall rank for priority by

*See Document 3/9.

reference to the dates on which they were severally published as such, and not by reference to the relative priority of the names of the families comprised in the superfamily concerned.

We unanimously agree that a strong recommendation should be submitted for the establishment of an *Official List of Family Names in Zoology* and that such should form a part of the revised scheme for the regulation of family names.

F. A. Urquhart,
Director,
Royal Ontario Museum of
Zoology and Palaeontology,
University of Toronto.

DOCUMENT 3/28

By HENNING LEMCHE
(*Universitetets Zoologisk Museum, Copenhagen*)

Enclosure to a letter dated 30th June 1953

Remarks to the Proposals Concerning Family Names in Zoology (Z.N.(S.)359)

General Remarks.—The purpose of our Commission is to decide in questions that cannot be regulated in the normal way by common agreement among authors. Thus, we are to leave to the scientists themselves to run their science as long as they are able to do it without controversies, and we help them therein by giving them the general advice through the *Règles*. The point, however, is that we have no means by which we can force anybody to do any special thing. We must never forget that we cannot make laws, but that our *Règles* are in fact nothing but strong recommandations. If we fail to make the *Règles* useful, there will come a day when the scientists will lose their patience and break the *Règles* intentionally, and then we will have that anarchy in nomenclature, which we all aim at escaping.

Therefore, it is constantly to be remembered that any single superfluous word in the *Règles* is most harmful, as it adds to the difficulties involved in their interpretation. *The* Règles *must be clear, short and easy to handle.* If there is a topic where the free action of the scientists does not do any serious harm, we should make no *Règles* that could be broken. This is the case in the problem about a detailed ruling on the names of families, etc., as I will try to show.

There ought to be a regulation of some kind that no commonly accepted name is to be altered for nomenclatorial reasons except after special decision by the Commission. This would place the burden of trouble on the shoulders of the man who wants to change, and not on those people who want to work with unchanged tools.

I would propose that, instead of all the detailed provisions in nearly every paragraph that the Commission is to be asked for exceptions, there should be incorporated in the *Règles* a very short sentence saying that: "*In every single case where it furthers the stability of nomenclature and is in the interest of the zoological science to make exceptions from the* Règles, *the Commission has the power to make that decision.*"

Probably, this sentence could be added to Article 1.

Special Notes

Para. 6. It is a good idea to have a schedule explaining how to make the Latinized names properly. Such a schedule should be no part of the *Règles* themselves, but merely recommandations. Then, any failure to adhere to this advice could be no source of trouble, and we can be sure that some such failures will show up even in spite of the best schedule. However, the schedule should not be too intricate in order to be complete. Better leave the minor points out of consideration. Should some more important error

appear, the Commission could be asked to rule. This would give the Commission much less trouble than if detailed *Règles* are established and—because of their complexity—constantly broken inadvertently.

Paras. 7-10. –Is there any reason why incorrectly formed family names should not be treated as the spelling mistakes they in fact are ? The *Règles* concerning spelling mistakes could easily be made to comprise these cases. I am against any special ruling in this matter.

Instead of introducing " laws " it is better to make recommandations. Then, people will have a " guide " as to what to do properly, without possibility of endless debates arising out of minor failures. The difficulties in nomenclature up till now have most often been that the *Règles* were too strict.

Para. 11.—The first thing to do is to find out whether or not it is at all advisable to establish any *Official List of Family Names.*

(1) If we are to protect the family names in the same way as generic and specific names, it is absolutely logical that we also make the proposed list. The problem is, however, whether it will be useful to us to be logical. Logic can be carried to such an extent that it hampers practical work and gives birth to bureaucratism. We must avoid that.

(2) Till now, we know very little concerning the effects of the lists of generic and specific (trivial) names arranged for earlier. So, it is a little early to judge the usefulness of such lists and we are to be a little reluctant to establish new ones if not absolutely necessary. Every complication is to be avoided.

(3) Regarding priority, there are the same problems about genera and about families, but the weight of the arguments is different. Closely related nominal genera may or may not be identical in practice, but, still, if we change from one nominal genus to another with a different type species we also change the concept of the genus a little, because it becomes a new " centre." We cannot avoid this difficulty on the generic level if we want stability in the generic names. So, we take a minor trouble to avoid a major one. It is, however, no absolute consequence that the same reasoning is valid on the family level. If we change from one nominal genus to another, we change the name totally, and repeated changing will mean that names show up and disappear totally all the time. This is the major trouble. On the family level, however, it is the ending, only, that is new. The genus on which the family name is based will be in the family all the time, and so it is much easier to trace the meaning of a new family name. Therefore, the same problem is a minor one, only, on the family level.

(4) Consequently, what is the basic problem in our case is to find out whether the lack of uniformity in family names is such a trouble that it is preferable to introduce a ruling similar to that concerning genera. Or, will it be preferable to leave every author free to choose the centre of his family-concepts around any genus he might prefer ?

I have not myself been working enough on the family-level in taxonomy to be able to answer this question properly, but I find a most lucid discussion thereof in the remarks of the Secretary in the paragraph discussed here. He

states that " there is no doubt that authors should be free to choose as the type genus for a family whatever genus he may regard as the most representative. . . ."

Consequently, families established on different type genera cannot have " priority " over each other. Then, there can be only historical reasons to place authors' names behind a given family name (see below) and *an Official List of Family Names* becomes illogical as it would say only that a family based on a certain type genus is to be called so and so—which is exactly what is told us in the Article 4.

Para. 12.—See the remarks to para. 25.

Para. 13.—The problem disappears if *no* priority status *is* introduced.

Paras. 14-15.—The clear thing to do is to state that family names are to be derived from their typical genus. As long as authors do not agree in the taxonomic question of what is the better type genus to choose, stability cannot be attained by any nomenclatorial means whatsoever. So, again the problem disappears if *no* priority status is given to family names. Exceptional cases can be handled by the Commission, but I think they will be very few. They will not by far run to the number of cases that will arise if we introduce the idea of priority here.

Paras. 16-20.—All these problems disappear if *no* priority status is introduced.

Paras. 21-24.—Here, we better have to refer to a general rule that the Commission has the power to regulate in every single case where stability is threatened by strictly following the *Règles*. (See the General Remarks.)

Para. 25.—In the case of species or genera, the authors' name and date is necessary because we have to know whether the name in question applies to some given species (genus) or a totally different one used for something else by some other author at another time. The purpose is not to carry any record on the history of zoology. It is absolutely necessary to remember that nomenclature is a practical tool –to be used for working purposes. If nomenclature is made a museum exhibition for the history of zoology, it will become a burden and not a help to taxonomy.

Turning now to the question of how to treat the family names, all that is left of the reasons for citing authors' names, etc., is the historical one. The family is bound to be defined by its typical genus from which the family name is derived. Later authors, if using the same type genus, are bound to use the same family name, even if the width they give their family concept is very different from that which the original author held. So the original author will be credited for having established a family concept that is totally different from what were his intentions when he actually made it. So the historical record that is kept in citing the authors is a false record.

According to the discussion to para. 11 by the Secretary, authors using other genera as types must be regarded as using other nominal family concepts. Priority does not come in here at all. The arising practice of citing authors in connection with family names is simply a needless taking over of something

useful in other cases (genera) to a sphere (families) where it is of no—or rather negative—value. So, we will save ourselves from endless troubles if we do not rule anything concerning priority in family names, and this is the reason for my proposed parenthesis to the first sentence in Article 4.

Moreover, the citation of authors in families could even be made useful if the meaning of it was changed so that if an author is cited, this would mean " sensu author date." In order to avoid misunderstandings, however, it seems preferable, then, always to use the word " sensu." We should, at least, not prevent a development along such a line by introducing a procedure that is of no use.

Paras. 26-28.—The problems disappear if no priority status is introduced. (A single remark to para. 26 : why should we make nomenclatorial rulings about how to tell the history of zoology ?)

Para. 29.—I fail to see that any regulation is necessary on the family level, as the problem is solved already through the rulings concerning generic names. In the few cases where similarity in family names arises out of derivations from different generic names, the Commission would have the power to decide from the general rule of the powers of the Commission in every single case where confusion is threatening.

Paras. 30-32.—I agree.

Para. 33.—The problem disappears if *no* priority status is introduced.

Para. 34.—Although I agree that the category of " tribe " is sufficiently well established to be regulated in some way, I disagree in the theoretical considerations. Before Darwin, the animal system was regarded as something formal. Then we have had a period where the theory of descendence has been a governing factor in zoology. Modern experience, however, begins to show that it may always be impossible to work out detailed " true " relationships, because the tracks through which genes are inherited through the ages are so extremely interwoven. So, in ruling as if the idea of phylogenetical relationships were the only one possible in zoology, we might cause trouble the day this idea is no more held.

Para. 35.—I fail to see the need of special names in such cases. Then, we could continue endlessly. Authors wanting to indicate groups in between our better recognised levels could easily do so by using symbols (Roman and Arabic figures, capital letters, etc.). We do not want over-systematising in nomenclature.

Para. 36.—People that do not know what is a tribe do not need any advice through our *Règles*—they will have to ask their professor. We have no definition, either, of the concept of a family, or a genus, or even a species. All this is outside our scope. We must avoid superfluous matter in order to keep our *Règles* clear and short.

Paras. 37-38.—I cannot find any necessity for ruling about supergenera. It is not appropriate to introduce the practice that if some author invents a new category, we will have to rule about it and give it a definite status in nomenclature (compare the remarks to para. 35).

Para. 39.—I agree.

Para. 40.—Why not simply use the termination idea ? The superfamily is very close to a family, and the category is not very widely used ; why not, therefore, use a termination similar to that of the family ? Then, we could possibly spare the termination -oidea for—say—orders.

(As discussed in detail elsewhere, I do not agree that we are to accept as final the diversity of name endings in orders.)

Para. 41.—I fail to see the reason for ruling about superfamily names in any other way than stating that they are to be co-ordinate with the name of their type family. As in family names, the question of priority cannot come up at all. Such rulings would be taxonomical not any of nomenclature. Don't paralyse taxonomy in order to avoid some few inco-ordinate jerks.

From all the above considerations, it seems to me that we could reduce the number of necessary *Règles* to the few given below :—

Article 4

The name of a superfamily is formed by adding -idea (or -oidea), the name of a family by adding the ending -idae, the name of a subfamily by adding -inae, and that of a tribe by adding -ini to the stem of the name of its type genus.

(N.B.—Authors' names are no part of family, etc., names.)

The name of the nominotypical family (subfamily, tribe) is to be derived from the same generic name as that of the superfamily (family, subfamily).

No more than one family, etc., can bear the same name. In cases of homonymy, one of the names is to be changed by the International Commission.

(Recommandation : Authors are urgently requested to choose their type genera in such a way that homonymy will not appear.)

(Note : The family concept is the only one of those cited that is obligatory.)

Article 5

The name of a superfamily, family, subfamily or tribe is to be changed whenever its typical genus is changed.

Incorrectly formed family, etc., names are to be treated according to the general rulings concerning spelling mistakes.

(Recommandation : If the error is small and harmless and stability has been attained, authors should not be too interested in changing, but better wait until the fifty years' limit has been reached and the name thus becomes protected*.)

If the name of a nominal genus for some family, etc., is changed or—for the reason that it is by some other author regarded as a junior homonym to some other nominal genus—the name of the family, etc., is to be changed accordingly except in every single case where the Commission decides that it should be otherwise.

*This Recommendation is only to be added in the case that a law of prescription is introduced making invalid all names that have not been used for fifty years.

DOCUMENT 3/29

By A. MYRA KEEN and SIEMON W. MULLER
(*Stanford University, Stanford, California, U.S.A.*)

Enclosure to a letter dated 1st July 1952

Comments on the Proposed Clarification, Amendment and Expansion of the Provisions in the " Règles " Relating to the Formation of the Names of Families

So many complications arise when an attempt is made to extend the *Règles* to cover categories higher than the genus that the task seems to us fruitless, adding a burden of bibliographic research to the work of the systematist that serves no really useful purpose. The concept of a family is a fluid one, changing both with time and with the viewpoint of the worker. The labor involved in establishing who in the past first used the currently acceptable combination of letters, or even—if one broadens the base—of determining who first used the word " family " in connection with a given group, seems to us a sterile and pedantic waste of time. The only point we would see in using the name and date of an author would be to indicate that the family as cited in a report includes the genera grouped therein by that author.

As to the collateral question (*Bull. zool. Nomencl.* **7** : 89, paragraph 40) concerning name endings for superfamilies : The termination " -ACEA " is, in Mollusca, more frequently used than " -OIDEA." We feel that either of these is preferable to the termination " -ICAE " favored by some workers.

DOCUMENT 3/30

Statement of the views of the
COMMITTEE ON NOMENCLATURE OF THE AMERICAN MUSEUM OF NATURAL HISTORY, NEW YORK

Enclosure to a letter dated 10th July 1952

(For an extract from the above letter, see Document 1/41 (p. 71))

Z.N.(S.)357. Rules for Naming Families and Suprageneric Categories of Lower Rank : Family names are to be formed by adding " -IDAE " to the stem of the name of the type genus. Names will date from the first author to use the name (regardless of its ending) in a suprageneric sense, not merely as a plural reference to the members of some particular genus. The type genus is not to be changed and is not necessarily the oldest genus or generic name in the family. Family names may be changed by the Commission in case of homonymy. Family names are not to be changed if the name of the type genus is changed (requiring repeal of Article 5); if necessary to avoid confusion, the Commission should place the generic name on the *Official List*.

The proposed necessity for citing author and date for family names may be questioned. In how many groups is this done ? The proposal that the priority of family names should be established on the basis of the family name whose type genus first had its type species elevated to that position is highly objectionable. It should, as a rule, be on strict priority of family names, with all cases to be decided by the Commission when undue confusion would be entailed by change.

Subfamily names (" -INAE ") and tribes (" -INI ") are co-ordinate with families as to formation of names, priorities, etc. Supergenera are of questionable status and of doubtful value as standard groups requiring standard endings. Rather, they are informal groupings of related genera and should not be standardized. They would, in any case, be co-ordinate with genera. We fail to see how this would occasion displacement of established generic names by downgrading, as claimed, since their names would be based on the names of the type genera.

Superfamilies shall be co-ordinate with families (oidea).

An *Official List of Family Names* is recommended with also an *Official Index of Rejected and Invalid Family Names*.

A.M.N.H. Committee on Nomenclature,
(Signed) Edwin H. Colbert,
John T. Nichols,
Ernst Mayr,
George H. H. Tate,
John T. Zimmer (Chairman).

DOCUMENT 3/31

Statement submitted on behalf of the
NOMENCLATURE DISCUSSION GROUP, WASHINGTON, D.C.

Enclosure to a letter dated 16th July 1952, from
Dr. R. E. BLACKWELDER, Secretary

Family Names (Z.N.(S.)357)

No attempt was made to cover all points under this subject, but after considerable discussion at an open meeting, the membership was canvassed on several particularly important and potentially controversial points. It appears that interest in the subject is especially high in the field of entomology, for twenty-one of the twenty-seven ballots received were from entomologists.

(1) The vote was unanimous (27 to 0) in *disapproving* the proposal to date family names from the time of their first publication with an " -IDAE " termination, and in *approving* instead the dating of names from their first proposal as a supergeneric category based on an included genus.

(2) The vote was overwhelming (25 to 1, with one not voting) in *disapproving* the dating of competing family names from the respective dates on which the type species of their type genera were fixed, and preferring instead the respective dates of proposal as supergeneric categories, as approved in the first question above.

(3) With reference to the status of family names when the name of the type genus of the family is found to be a synonym, opinion was much more divided, although majorities were recorded in each case :—

(*a*) By a vote of 17 to 8 (two not voting), *approval* was registered for not changing family names when the familiotype comes to be regarded as a junior subjective synonym.

(*b*) By a vote of 16 to 9 (two not voting), *disapproval* was registered on the proposal to change family names when the familiotype is found to be a junior objective synonym.

With one exception, the majorities on these two questions were composed of the same people. In other words, sixteen of the twenty-five voting taxonomists approved basing a family name on a generic name even after it falls into synonymy, whether subjective or objective. One would not change in cases of subjective synonymy, but would for objective. Eight would change the family name in both types of case.

DOCUMENT 3/32

By C. W. WRIGHT
(*London*)

Enclosure to a letter dated 18th July 1952

Comments on Questions Relating to the Regulation of Family Names Raised in Part 3 of Volume 7 of the "Bulletin of Zoological Nomenclature"

Para. **6**

In the light of experience of authors who are otherwise good nomenclaturists, I think that a Schedule is essential!

Para. **14**

I agree that priority must date from the concept, the name following the generic name.

Para. **15**

I feel strongly that the *name* of a family is so closely involved with the name of the type genus that the *rule* must be that it changes whenever the name of the type genus is validly changed but that *where specialists desire the family name NOT to be changed application may be made to the Commission.* The principle should surely be that in the permanent rules logic should be served, with provision for the meeting of expediency by the granting of exceptions by the Commission. Otherwise the Rules will become a hotch potch.

Para. **18**

I agree emphatically.

Para. **20**

I feel strongly that exceptions should be granted only on the same basis and to the same extent as in the case of generic names. After all in most phyla the number of actual users of family names in any generation amount to only a few dozens and, if the *Official List* policy works, the problem will be rapidly reduced in size.

Paras. **21-24**

The solution lies in (*b*) of para. 24. The desirability of retaining a family name should be made explicitly one of the factors to be taken into account when applications relating to generic names are considered. I am most averse to any provision that would in any circumstances allow the retention of family names with no nominotypical genus, as this is flatly contradictory to the whole basis of familial nomenclature in the Rules.

Para. **26**

I agree but suggest that the full method of citation should be: "RIODINIDAE (Grote, 1895: ERYCINIDAE) Swainson, 1827" which gives the chronology in the right order.

Para. **32**

I agree but consider that provision should be made for method of citation —in my view, and I believe yours, this is correctly " A-IDAE (A-INAE) " with NO author and date for the nominotypical subcategory.

Para. **40**

I disagree with the suggestion of " -OIDEA "—see Arkell's comments with which I agree. Surely if superfamilies go with families, one essential is that they should end in " -AE " ; *Treatise of Invert. Pal.* at one time favoured " -ACEAE " but now apparently has gone over to " -ICAE," which has the merit of corresponding well with " -IDAE " and " -INAE."

DOCUMENT 3/33

By E. RAYMOND HALL
(*University of Kansas, Department of Zoology, Lawrence, Kansas, U.S.A.*)

Enclosure to a letter dated 22nd July 1952

Use on basis of priority ; probably we should not interpret priority to depend on the ending " -IDAE " for the family names.

DOCUMENT 3/34

Statement submitted on behalf of the NOMENCLATURE COMMITTEE OF THE SOCIETY OF SYSTEMATIC ZOOLOGY

Letter, dated 23rd July 1952, with enclosures, from Dr. W. I. FOLLETT, Chairman

Families (Z.N.(S.)357)

The Nomenclature Committee of the Society of Systematic Zoology submits the following recommendations on the naming of families, superfamilies, and suprageneric categories of lower rank :—

(1) Any genus, not necessarily the oldest included, may be the familiotype.

(2) A family name should date from its first publication as a suprageneric group name based on an included genus, regardless of the ending employed and regardless of what the author called his suprageneric category (e.g. family, stirps, etc.).

(3) The name of a superfamily should be formed by adding " -OIDEA " to the stem of the name of one of the included families.

On the remaining aspects of this subject concerning which you have requested advice, the varying shades of opinion of the committee members are expressed by the following (copies of which are enclosed in duplicate) :—

(1) Mr. Curtis W. Sabrosky's summary, discussion, and recommendations (Appendix 1).

(2) Dr. J. C. Bradley's remarks upon Mr. Sabrosky's paper. Dr. Bradley, as you doubtless realise, is not a member of this committee (Appendix 2).

(3) Mr. Sabrosky's comments upon Dr. Bradley's remarks (Appendix 3).

(4) The comments received from each member of the committee who has expressed his views. You will note that the comments of one member are submitted on a copy of Mr. Sabrosky's paper, and are distinguished thereon by *underlining** (Appendix 4).

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*The comments which were distinguished in the typescript by underlining are here printed in bold type.

APPENDIX 1 TO DR. W. I. FOLLETT'S LETTER OF 23RD JULY 1952

Enclosure 1 to Appendix 1 to Dr. Follett's letter noted above

SUMMARY BY MR. CURTIS W. SABROSKY OF THE SUGGESTIONS PUT FORWARD BY MR. FRANCIS HEMMING IN VOL. 7 OF THE "BULLETIN OF ZOOLOGICAL NOMENCLATURE" AND COMMENTS ON THOSE SUGGESTIONS BY PROFESSOR ROBERT L. USINGER

(Note : In the typescript submitted to the International Commission, Professor Usinger's comments were distinguished by being underlined. In the present version those comments are distinguished by being printed in "bold" type.)

Z.N.(S.)357 : Names of Families and Co-ordinate Categories ("Bull. zool. Nomencl." 7 (pt. 3) : 61-94 ; March 15, 1952)

(Summary by Curtis W. Sabrosky)

Summary of Mr. Hemming's Proposals (Arabic numerals below correspond to paragraph numbers in the *Bull. zool. Nomencl.* For brevity, I use "familiotype" (type genus of a family). The expression "etc., etc." takes the place of the details of application to the Comm., public notice, etc.)

(*a*) NAMES OF FAMILIES AND SUBFAMILIES

STEM :

4-6 : The key feature of Article 4 (the "stem") "seems inevitable" and "must be maintained." It is proposed to add a Schedule of criteria for determining the stem of Latin and Greek nouns. (A modification of the Paris action (B.Z.N. 4 : 246), back toward classicism.) **O.K. à la Grensted and Sabrosky.**

8-9 : For family names published prior to the effective date of the Schedule on stems :—

(x) If they have never been emended "on etymological or philological grounds," no emendation will be permitted after that date (whether name is correctly or incorrectly formed).

(xx) If an emendation already exists, the Commission can direct, upon application, etc., etc., that it be accepted.

O.K.

10 : For new family names, after the effective date, the Schedule rules will be mandatory, and incorrectly formed names will be "subject to automatic emendation." **O.K.**

TYPE :

11 : Any genus, not necessarily the oldest included, may be the familiotype (*Opinions* 133 and 141 reaffirmed). **O.K.**

SUBFAMILY NAMES :

30-32 : To be governed by the same rules as family names, except that they shall end in "-INAE," and that the subfamily containing the type genus of the family shall be formed on the same stem as the family name. **O.K.**

33 : Family and subfamily names are co-ordinate in value (comparable to provisions in Articles 6-7 and 11-12 of the Code). **O.K.**

DATE OF PUBLICATION :

12-13 : A family name is to be considered established only when published with the termination " -IDAE," except that for cases before 1850, the Commission may direct otherwise, on application, etc., etc. (See also paragraphs 25 and 14.) **Agree with Sabrosky.**

AUTHOR :

25 : The author of a family name is the one who first published it (presumably in line with 12-13), save that a substitute name (14) should be attributed to the author and date of the original name which is replaced. **See Sabrosky.**

CITATION :

26 : Comparable to Article 22 of the Code, with special provision for recording substitute names (14, 25). **O.K.**

CHANGE OF NAME OF FAMILIOTYPE :

14 : In cases of generic homonymy, the resulting substitute family name is to be based on the substitute generic name, and is to be back-dated to the original proposal of the family. **O.K. but dual author and date.**

29 : Rules for determining generic homonymy, being fundamental to generic names and hence also pertinent to the question of family names, should apply also to family names based on those generic names (cf. B.Z.N. **4** : 130-131, 161-162, 243). **O.K.**

15 : If the familiotype becomes a *junior subjective synonym*, the family name should not be changed, unless specialists apply to the Comm., etc., etc. **O.K.**

21-24 : Two items are linked as being one nomenclatorial problem : (x) Family names not based on an included genus, and (xx) the proposal by some zoologists that family names should not be changed when the familiotype is found to be a junior objective synonym. " In each of these cases the *only nomenclatorial issue* is whether circumstances are *ever so exceptional* that it is desirable to waive the requirement that a family name must be based upon the oldest objectively available name for its type genus." (Italics mine.) Mr. Hemming believes that zoologists will wish a provision for exceptions, but he also believes that the general feeling is that exceptions should be made " only on very rare occasions, and where the need for maintaining stability for the name of the family concerned is exceptionally strong." He believes it an " extremely great " gain to be able to see from the family name what is the familiotype. He suggests, therefore, that exceptions should be rare, and should be limited to family names established " prior to (say) 1850." **? No.**

FAMILY NAMES IN COMPETITION :

16-19 : In cases of the union of two or more families, the choice of name for the combined family should be made by priority rather than by a first-reviser method. Mr. Hemming prefers a rule that competing family

names "take precedence as between one another as from the date on which the type species of the type genera concerned were elevated to that position." He chooses this expression, rather than the dates of publication, "in order to ensure that the concept of a given family should retain its original priority, even if for nomenclatorial reasons the actual family name had at some time (to) be changed, the family retaining its identity however by keeping unchanged the type species of its type genus." **Yes.**

20 : The Commission may, on application, etc., etc., direct the use of a junior family name over a senior where the former is best known and most widely used. **Of course.**

27-28 : Homonymy in family names derived from distinctly different generic names : If it occurs, the junior homonym is to be rejected ; but specialists may apply for a ruling on which names shall be used, as in the case of Meropidae-Meropeidae (*Opinion* 140). **O.K.**

(*b*) NAMES OF UNITS BETWEEN SUBFAMILY AND GENUS

34-38 : The Rules should be extended to include (x) names between tribe and subfamily (to be formed like subfamily names), (xx) names of tribes (or equivalent units, whatever called) (to be formed with the ending "-INI"), and (xxx) names of supergenera (suggestions wanted on the termination to be adopted). All names are to be co-ordinate with family and subfamily names, save that supergeneric names "should rank for priority *inter se* by reference to the dates on which they were respectively published as such." **O.K. but leave out "supergenera." These belong in generic group—if necessary.**

(*c*) NAMES OF SUPERFAMILIES

39-42 : As in section (*b*) above, it is believed desirable to extend the Rules to cover these names. It is proposed to form such a name by adding "-OIDEA" to the stem of the name of one of the included families. The names will be co-ordinate with those of families, save that they shall rank for priority *inter se* from date of publication as superfamilies. **O.K.**

(*d*) OFFICIAL LIST AND OFFICIAL INDEX

43-48 : As has been done for generic names, it is proposed to add Schedules to the Rules to contain an "Official List of Family Names in Zoology" and an "Official Index of Rejected and Invalid Family Names in Zoology." The former is to include also subfamily and tribal names, and with provision for special entry of superfamily and supergeneric names if the qualifications noted above in (*b*) and (*c*) are accepted. **O.K. with exception of supergenera.**

(*e*) ADVICE SOUGHT

49 : Specialists are asked for their views on the problems, especially on the suggestions made for solution, and also for any additional aspects that should be covered. Statements are requested by not later than 31st July 1952.

Enclosure 2 to Appendix 1 to Dr. Follett's letter of 23rd July 1952

MR. CURTIS W. SABROSKY'S DISCUSSIONS OF THE SUGGESTIONS IN RELATION TO THE NAMING OF FAMILIES PUT FORWARD BY MR. FRANCIS HEMMING IN VOL. 7 OF THE "BULLETIN OF ZOOLOGICAL NOMENCLATURE," WITH MR. SABROSKY'S RECOMMENDATIONS IN REGARD TO THE FOREGOING MATTERS AND PROFESSOR ROBERT L. USINGER'S COMMENTS ON MR. SABROSKY'S RECOMMENDATIONS

(Note : As in the case to Enclosure 1 to Appendix 1, Professor Usinger's underlined comments are distinguished by being printed in " bold " type.)

FAMILIES ; Z.N.(S.)357. DISCUSSION AND RECOMMENDATIONS

By Curtis W. Sabrosky

Mr. Hemming's proposals have considerable merit. It is my opinion, however, that if the final proposal should treat some parts of the problem in the ways suggested, the solution as a whole will seem cumbersome, involved, and too dependent on the Commission.

One general simplification which I recommend is to make a positive statement of all provisions, and to eliminate the numerous explanations that specialists can apply to the Commission if they wish exceptions to be made. All of these can be taken care of by one final statement that unusual cases can be presented to the Commission with full particulars. **Good.**

It should be realised that the establishment of rules for family names based on the priority of their proposal, and even more important the extension of such rules on a co-ordinate basis to all categories between supergenus and superfamily, will impose grave problems and responsibilities for the future. Very few, if any, groups are adequately catalogued in the matter of suprageneric categories, and the larger the group, the more complex the problem. An across-the-board application of any rule will cause upsets of some familiar names. I have often wondered if we might not be farther ahead to organise international committees in the various phyla and orders, to review the literature, to follow some rules in general, to agree on arbitrary solutions for exceptional cases, and finally to produce a list of family names with their familiotypes and type species. It was such a programme as this which our Committee started some years ago, but which has been dormant for some time. It is also comparable to the programme on " The Generic Names of British Insects " being carried out in England, though that project is limited along national lines. It is perhaps still not too late to recommend such a programme on an international scale.

As a basis for discussion by our Committee, I wish to submit the following recommendations, arranged in the order of my summary :—

(*a*) NAMES OF FAMILIES AND SUBFAMILIES

STEM :

4-6 : Approve, but with two suggestions : (x) Recommend that the

Schedule of criteria follow the very reasonable conclusions of Grensted (1948, *Ent. mon. Mag.* **84** : 280-281) in interpreting certain nouns as Latinized and thus with a Latin rather than a Greek stem (e.g. ACROCER-IDAE rather than ACROCERAT-IDAE, based on *Acrocera :* nouns with Greek endings, such as *Rhinoceros*, would continue to follow a Greek stem, thus RHINOCEROT-IDAE. (xx) Recommend that the Schedule include a general statement for nouns that are not Latin or Greek, based on a common-sense use of what appears to be the natural or obvious stem, or the use in some cases of the entire generic name as the stem. **O.K. incl. suggestions.**

8-9 : I recommend a vote to omit these sections entirely, as a contribution to making the rules more simple and direct. Any changes that would be required by general enforcement of the rules on stems will, as far as I am aware, be of such minor nature that we should not bother about them. Examples : Changing PIERIDAE and SEPSIDAE to PIERIDIDAE and SEPSIDIDAE is not very earth-shaking. In fact, if such cases are the *raison d'etre* of 8-9, I would prefer to see the Schedule of criteria in 4-6 rule arbitrarily that all family names based on " -IS " nouns should be formed simply and directly by dropping the " -IS " and adding " -IDAE," thus PIERIDAE, EMPIDAE, etc. **O.K.**

10 : If 8-9 is left in, this paragraph is all right, but in line with my recommendation to omit 8-9, I recommend that the mandatory and automatic emendation features be made applicable to all family names. **O.K.**

TYPE :

11 : Approve, but I suggest that it would be appropriate to add here the provision, which Mr. Hemming has elsewhere, that the originally established *familiotype* is not subject to change, though its *name* may sometimes have to be changed. (Cf. my discussion of paragraphs 25 and 14.) **O.K.**

SUBFAMILY NAMES :

30-33 : Approve. **O.K.**

DATE OF PUBLICATION :

12-13 : Disapprove. Instead, I recommend supporting a rule that family names date from their first publication as a suprageneric group name based on an included genus, regardless of the ending employed and regardless of what the author called his suprageneric category (family, stirps, or etc.). This rule will avoid attempting to decide on a date before which some names may be validated on other than " -IDAE " endings (1850 suggested by Mr. Hemming), and will avoid the need for and the trouble with applications to save those old names. Actually, many of the old names which used other endings, before the " -IDAE " ending was widely and quickly accepted, are the old familiar families which everyone will wish to preserve anyway ; e.g. TIPULARIAE Latreille, CULICIDES Billberg, TABANII Latreille, etc. Example of the difficulties that may arise by insistence on the " -IDAE " form : The family name of the moth flies dates from PSYCHODITES Newman 1834, or (if my present information is complete) from PSYCHODIDAE Bigot 1854. But if one dates that only from the " -IDAE " ending in

1854, then the oldest name for the family is actually FLEBOTOMIDAE Rondani 1840 (emended PHLEBOTOMIDAE Walker 1851). **O.K. I agree with Sabrosky.**

One small additional point: Mr. Hemming mentions vernacular names, especially as used by French authors. I see no reason why these might not be accepted for the older names, provided, however, that it is clear that they are *group* names (suprageneric) and not merely a way of referring in the plural to the species of one genus.

AUTHOR:

25 : Approved except for the "saving clause." On the latter, I see no advantage to be gained by citing a substitute name by the author and date of the name which is replaced, if the Rules somewhere make clear (probably under TYPE, par. 11) that the first proposal established the familiotype for all time, and that it does not change, though its name may be changed. The proposed citation would be incorrect and confusing from a bibliographical standpoint. (See also comment under par. 26, following.) The final wording of the section should of course fit the action taken on date of publication (12-13). **O.K.**

CITATION:

26 : I recommend a proposal that authors and dates shall not be given for suprageneric names, in the way that they are customarily given for generic and trivial names, unless the person referring to the names needs to distinguish between them, as in discussing the suprageneric nomenclature of a group. I recommend this as a step toward minimising the personal element as much as possible. Perhaps "X— Y—" will not propose so many tribes, sections, subsections, etc., if he knows that the name "X— Y—" will not appear every time one is cited.

Some remarks under Author (25) are pertinent here: For substitute names, I should cite them (using Mr. Hemming's example) as "RIODINIDAE Grote, 1895," or "RIODINIDAE Grote, 1895 (ERYCINIDAE) Swainson," or "RIODINIDAE Grote, 1895 (pro ERYCINIDAE Swainson, 1827) (=X-IDAE Westwood, 1840)," depending on the detail which is necessary or desired. **No. I think authors and dates should be cited.**

CHANGE OF NAME OF FAMILIOTYPE:

14 : Approve, except for the back-dating. I recommend opposing that as discussed above under 25 and in part under 26. Back-dating is a method that would indeed ensure what I have called the "continuity of the type concept," i.e. that a family name should follow the nomenclatorial course of its original familiotype. I oppose back-dating partly because it is bibliographically incorrect and misleading, and partly because the rules would be simplified that much more to eliminate it here and elsewhere. The goal of continuity, in which I concur with Mr. Hemming, can be attained more simply and directly by writing the provision into the section on Type (par. 11), q.v. **O.K.**

29 : Approve. **O.K.**

15 : Approve, but I should make it part of the general problem of synonymy as I propose to treat it. (See next section, 21-24, under (xx).) **O.K.**

21-24 : I should like first to dispose of my item(x) which is discussed in paragraph 22 ("Situation arising when a family name is not based upon the name of a genus included in the family"): I doubt that this situation exists today, and I recommend that the section be omitted. **O.K. Omit.**

It seems probable that this situation has been incorrectly raised to the status of a current problem by *Opinion* 141, Summary (3), Note, which refers to "a few *well-established* family names proposed by early authors" but not based on included genera (italics mine, here and below). Actually, however, in *Opinion* 133 (upon which 141 is based) Dr. Stiles appears only to have been mentioning the existence of such names in early times, without meaning to carry the problem to the present (*Opin.* 133, p. 42, last paragraph: "Since (with the exception of isolated instances by *early authors*) family names are based . . ."). Example, in Diptera: The family of the small-headed flies was first called INFLATA and then VESICULOSA (VESICULEUX), both names referring to the swollen appearance of the body, and not based on generic names. But these names were soon abandoned in favour of such names as ACROCERIDAE, HENOPIDAE and CYRTIDAE, based respectively on *Acrocera*, *Henops* and *Cyrtus*.

21-24, my item (xx): I recommend opposing Mr. Hemming's view, and instead supporting a proposal that family names should *not* be changed when the familiotype is found to be a junior synonym, whether objective or subjective. Mr. Hemming has directed the discussion to the "exceptional" feature, but advocates of the proposal in (xx) above believe that it should be a regular procedure to aid in future stability of family names, as Mr. Hemming has agreed in part in paragraph 15. I see no great gain or value in being able to recognise the current name of the familiotype in the family name. Non-systematists have neither need nor care for that, and systematists have no need, for any systematist worthy of his salt in a group will necessarily know both the senior and junior synonyms. One could make an equally strong case that it would be an "extremely great gain" to be able to recognise from the family name what is the original familiotype. **Agree with Sabrosky.**

Numerous examples can be cited where such a rule would have avoided changes of names and thus contributed to stability. The sixteen families of Diptera that involve Meigen 1800 vs. 1803 names for their familiotypes are good examples: *Chironomus* 1803 could change to *Tendipes* 1800 and the family name could have remained CHIRONOMIDAE. French writers who have used LARVAEVORIDAE (*Larvaevora* Meigen 1800) still call the flies "les tachinides." One family of Diptera has had four names as a result of synonymy (successively, RHYPHIDAE, ANISOPODIDAE, PHRYNEIDAE, SYLVICOLIDAE), when one name RHYPHIDAE could have sufficed. With all the changes that are bound to come when all five or ten million species of insects are known, let us plan to avoid any more changes than absolutely necessary.

FAMILY NAMES IN COMPETITION :

16-19 : I agree with Mr. Hemming in wishing to base a decision on priority of some sort, but I recommend that our Committee support the priority of the oldest proposed family name, and not of the designation of the genotype. His reason, as given above (" to ensure," etc.), will apply equally well to my method : Determine the oldest proposed family name, in which will appear the name of the familiotype, and the concept of that family will follow the type species of that genus. It seems to me that this is more simple and direct, and would also tend to preserve continuity and usage in the older family names. Suppose for example that a family proposed in 1820 was based on a large genus whose type was not fixed until 1880. In 1920 another family was proposed for an aberrant genus known from a single species since 1810. In 1930 an author who combined the two families would be obliged under Mr. Hemming's proposal to reject the century-old family name and adopt the younger one, which happened to have the oldest fixed genotype. The principle of oldest proposed family name also enters into paragraphs 20 and 27-28. **Agree with Sabrosky.**

20 : I recommend omitting this as a separate provision (see my second paragraph of discussion). **O.K.**

27-28 : Approve, but the rule needs to say more than merely that the junior homonym is to be rejected. What shall take its place ? Specialists can, of course, apply as they did for *Opinion* 140, but will they always have to ? Are there any directions that can be given to apply to most cases ? On the other hand, perhaps homonymy in family names is so relatively uncommon that all cases should be arbitrarily decided by the Commission upon advice from specialists in the affected group. It will not always be as easy to arrive at distinct family names as it was in the case of MEROPIDAE and MEROPEIDAE. Incidentally, it occurs to me now that MEROPSIDAE would have been a better name for the former, by carrying the full generic name and thus being the more characteristically distinct from MEROPEIDAE. **O.K.**

(*b*) NAMES OF UNITS BETWEEN SUBFAMILY AND GENUS

34-38 : Approve, except for the saving clause on the supergeneric names. The argument of " preventing displacement of an established " name by downgrading of an older name from a higher level could as well be applied to any category. Treating them thus would set up a special case within a case. If they are to be based on generic names, by adding some appropriate ending to the stem of the supergenotype, it would seem to me best to incorporate them completely into the system. **O.K. but delete " Supergenus."**

(*c*) NAMES OF SUPERFAMILIES

39-42 : Approve, except for the saving clause on the priority *inter se* of the names. It seems to me that these also may as well be co-ordinated completely with the system. Their existence should never complicate the priority of family names, for they will be formed from already existing family names. If superfamilies are combined, of course, then one may reasonably require, as with the union of two or more families (par. 16-19), that one should select the first to be proposed as a superfamily. **O.K.**

(*d*) OFFICIAL LIST AND OFFICIAL INDEX

43-48 : Approve, though the book work of this kind is becoming a bit deep. In a paper of mine submitted to the Commission on the subject of family names in March 1946 (not published*) ; see also my article in *Amer. Nat.* **81** : 153-160, 1947), I myself proposed an Official List of Family Names. I envisioned, however, not a maintained list to which names would be added periodically, but a planned undertaking to encompass the whole subject and produce a solid and useful reference work (see last half of the third paragraph of my discussion). **O.K.**

(*e*) ADVICE SOUGHT

A few points that should be covered in the proposal on family names, in addition to several already mentioned, are as follows :—

(x) In paragraph 14 (cases of generic homonymy), what about those cases in which the junior homonym is not renamed, but is replaced by the next available synonym ? If the junior homonym and its synonym are isogenotypic, no harm is done, for the type species is the same. If, however, they are not isogenotypic, there is a break in the continuity. (Example : ORTALIDAE (Diptera), based on *Ortalis*, preoccupied in Aves ; the name now commonly used is OTITIDAE, based on *Otites*, a different genus than *Ortalis*, though fortunately a very near relative.) **The junior homonym should be renamed and this should become the valid name !**

(xx) Misidentified genotypes and their relation to the family name problem.

(xxx) The proposed endings for superfamily and tribe are widely used in insects, but not so in other groups. Should consideration be given to setting up different rules for different Phyla, where uniformity may already have been reached on other endings (such as " -IFORMES ") ? **Optional upon appl. to Comm. "-OIDEA" and "-INI" O.K.**

*The paper here referred to is here published as Document 3/5 (pp. 171-176).

APPENDIX 2 TO DR. W. I. FOLLETT'S LETTER OF 23RD JULY 1952

DR. J. CHESTER BRADLEY'S COMMENTS ON THE SUGGESTIONS MADE IN THE PAPER BY MR. CURTIS W. SABROSKY ANNEXED TO DR. FOLLETT'S LETTER AS APPENDIX 1, ENCLOSURE 2

(For a separate statement furnished by Dr. J. Chester Bradley, see Document 3/37)

Family and Co-ordinate Names (Reference Z.N.(S.)357) : Comments on Mr. Curtis W. Sabrosky's Paper

By J. C. Bradley

Paras. **4-6**

I suggest rewording Art. 4 to read : " The name of a family is to be formed by adding the suffix " -IDAE," the name of a subfamily by adding " -INAE " to the stem of the name of its type genus, " stem " for this purpose being interpreted by the two paragraphs that follow :—

(*a*) In case of a name which is not, or the terminal element of which is not a classical noun, the " stem " within the meaning of this Article shall be that portion of the name that shall be first selected to receive the suffix " -IDAE," " -INAE," or any other patronymic (or equivalent) suffix intended to convert that generic name into the name of a group higher than genus.

(*b*) In case the name or the last element of the name consists of a classical noun, the " stem " as here used shall be understood to consist of the genitive form of that noun without its case-ending.*

So far as barbarous words or arbitrary combinations of letters are concerned, it is obvious that any result is arbitrary. A rule in a Schedule could be helpful, but only advisory. The person who first establishes a plural group name based on such a barbarous name should have the privilege of establishing what that stem is to be.

Paras. **7-10**

The rule above suggested is mandatory and can lead to but one result. Anything else is a misspelling. A correction should be required whenever such a mistake is found to exist. But, in his article on emendations, Mr. Hemming has been at pains to differentiate such a *change of incorrect spelling* from an emendation. From this point of view, a technical emendation of a family name could result only from an emendation of the generic name on which it is based.

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*This will not always be the classical form of the stem, particularly in the case of vowel stems, but it will be that part, form, or contraction of the stem that the ancients would themselves have used in combination with a suffix commencing with a vowel, is entirely appropriate for neo-Latin, and is in fact the usage of the most careful linguists among zoologists since the days of Linnaeus. Although my suggestion was written before I had read Dr. Grensted's paper (1947, *Ent. Mon. Mag.* **83** : 137–141) it is precisely the objective part of the solution that he proposed at the top of p. 141, l. c. It seems to have been the first sentence of the same paragraph that suggested the emendation of Art. 4 adopted at Paris ; but that part is subjective and not necessary, in fact may be looked upon more as an explanation of the result sought by the rule laid down in the last sentence. The rare case (as perhaps CISIDAE) not covered by the rule could be handled as an exception by the Commission.

Para. **11**

Concur with Sabrosky.

Paras. **30-33**

Concur with Sabrosky but go further. All suprageneric groups based on a generic name must be co-ordinate, even though called (as many old authors have done) by some unrecognised name, such as legion.

Paras. **12-13**

Strongly concur with Sabrosky. Am neutral on, but willing to accept, French vernaculars if there is a general feeling that they should be accepted.

Para. **25**

Concur with Sabrosky, but with the understanding that the author to be cited is the author of the suprageneric name, regardless of rank or termination assigned it. I should add

> " If it is desired to cite the author who first assigned a particular rank and limit to a suprageneric group, this may be done by adding in parentheses ' (sense of so-and-so, such-and-such a data).' "

Paras. **21-24**

Sabrosky's item (X). Concur with Sabrosky.

Sabrosky's item (XX). There are three classes of cases.

(*a*) The name of the type genus is a junior homonym.

(*b*) The name of the type genus is an objective junior synonym.

(*c*) The name of the type genus is subjectively considered to be a junior synonym.

Once the type genus has been established, it would be contrary to all principles of types to change it, and therefor not allowable.

In cases (*a*) and (*b*) there is no change in the type genus involved, it is only a question of the name under which it is known.

In case (*c*) it is only a matter of opinion that the senior name applies to the same group. We are confronted with two *nominal* genera, and to shift from one to the other would be a change of type, therefore not theoretically allowable.

In such a case it is clear that Sabrosky's plan is correct ; the junior synonym remains the name of the nominal type genus and must (by definition) be that upon which the valid family name is based, even by authors who subjectively reject it for the genus.

In case (*b*) it is theoretically possible to base the family name upon the name of either objective synonym, for they are but two names for the same type genus. I have somewhat reluctantly, in the interest of continuity, come around to Sabrosky's view here also. Nevertheless I strongly believe that in such cases the better solution is for the Commission by plenary action to

conserve the junior synonym at the generic name level. I should favour such a rule as

> " In case the name of the type genus of a suprageneric group is found to be a junior objective synonym, the Commission shall, under its plenary power, conserve that name, unless there are strong reasons for doing otherwise."

In case (*a*) we cannot use the junior homonym, because of conflict or possible conflict with suprageneric names based on the senior homonym. There should be a rule directing the Commission to suppress the senior homonym if it is without possible utility in its Phylum. If this cannot be done, and there is no objective synonym of the junior homonym, then there remains only one legal recourse. This is to deliberately create an objective synonym to replace the junior homonym, which then becomes available (*a*) for basis of the family name, and (*b*) as a substitute for the junior homonym that is the unavailable name of the type genus, for any one who rejects all subjective synonyms, and then to use this objective synonym as basis for the family name. If the result is objectionable, the Commission can suspend the rule in favour of another name. It is not possible in any other way to select a new family name based on some other nominal genus (as OTITIDAE instead of ORTALIDAE) since to do so would be to change the type genus, which is illegal. This could not be done even if the replacing name were a subjective synonym of the junior homonym.

Paras. **27-28**

Agree with Sabrosky, but the case is a little worse than he points out. Hemming's suggestion " to be rejected as a junior homonym " produces an absolute impasse. The type-genus of the suprageneric name is that which gives its stem to the homonymous suprageneric name ; but the genus is not a homonym and its name is valid. To shift the type genus is impossible under the rules, and would nullify the existence of any type. Yet there is only one way to form a suprageneric name under the *Règles* from that generic name. The only escape is by suspension of the rules and plenary action.

The principle is the same throughout all suprageneric categories, and since there are many cases of two or more genera with identical stems, I shudder to think of the number of homonymous names that may exist at tribal level or above that have never been noted.

Paras. **34-36**

Agreed to.

Paras. **37-38**

Supergenus. The name of a supergenus should be the name of the nominotypical genus and subgenus without changed ending. In citation it should be distinguished from genus only by insertion of the word " Supergenus " before it, but would not be included in the full specific name of an included species. Such is my impression, but I may be wrong. Can any one cite instances where supergenus is employed with a special termination ?

Paras. **39-42**

I support Sabrosky's suggestion, but, as in the case of family name, it is the first given suprageneric name that is the nominotypical genus of tribe, subfamily, family and superfamily (not, at each level, the name first to be accorded that particular rank).

We speak of the type-genus of tribe, of subfamily and of family. We should do the same for superfamily. We do not speak of type-genus of tribe, type-tribe of subfamily, type-subfamily of family, nor should we speak of type-family of a superfamily. It is, however, perfectly permissible for descriptive purposes to speak of the typical or nominotypical family, subfamily or tribe.

Paras. **43-48**

I agree to Hemming's proposals, with three suggestions :—

(a) that each suprageneric name be entered in the form in which it was first established, with author and date, followed by its first usage, if any, with each of the authorised suffixes -ini, -inae, -idae, and -oidea.

(b) that the list be entitled *Official List of Suprageneric Names in Zoology* ;

(c) that somewhere a suprageneric name be defined as any name of a group higher than genus based on the stem (or its equivalent) of a contained genus with a suffix added to indicate its rank.

Point **(X)**

See my discussion above under heading 21-24, case (a).

Point **(XX)**

The most serious difficulty in family names arises in the case of a name the type-genus of which actually belongs to a taxonomic group far removed from that to which that name was believed to belong. All such cases should be brought to the attention of the Commission as rapidly as possible. A regulation should instruct the Commission under its plenary power to set aside the type-species of such genera, and to establish new type-species that will conserve the accepted meanings of the generic names.

I think the above covers what Dr. Sabrosky has in mind. However, it is not quite what he says. " Misidentified genotypes " actually means type-species of a genus which is not the species that the describer of the genus or the selector of the type-species actually meant when the species was designated type. Such cases come up in any case for review by the Commission, which can be relied upon (I hope) not to decide them in such a way as to upset a family name.

Point **(XXX)**

I have no objection to other terminations for tribe and superfamily being established for phyla where very strong demand exists among specialists. I hope it will not be necessary and that specialists will change over. The termination " -ACEA " has been quite universally employed in Mollusca for superfamily, but recently some authors (or at least one) have been changing over to " -OIDEA."

APPENDIX 3 TO DR. W. I. FOLLETT'S LETTER OF 23RD JULY 1952

OBSERVATIONS BY MR. CURTIS W. SABROSKY ON THE PROPOSALS IN HIS PAPER RELATING TO FAMILY NAMES ANNEXED TO DR. FOLLETT'S LETTER AS APPENDIX 1, ENCLOSURE 2, MADE BY DR. J. CHESTER BRADLEY IN THE PAPER ANNEXED TO THE FOREGOING LETTER AS APPENDIX 2.

Comments on Dr. Bradley's Comments

By Curtis W. Sabrosky

4-6. The suggested rewording of Article 4 seems to cover the matter, though I am not sure that it agrees with my views (which I still hold on the stem of nouns like *Acrocera* and *Leptocera*). However, perhaps I have misinterpreted the comments.

30-33. I agree. The " going further " that Dr. Bradley suggests was hinted at in my sections (b) and (c), but, if all are to be co-ordinate, this is indeed the appropriate place to say so.

25. I agree. The " understanding " should indeed be specified, if the final decision on 12-13 follows our line of reasoning.

21-24, my item (XX). I am glad to note that Dr. Bradley agrees with my view, albeit reluctantly with respect to his case (b). However, I do not agree that it would be better to have the Commission do it by plenary action. The best hope for the future in the mass of names and problems that will come with another few million species is to refer *fewer* things to the Commission, not more. Under case (a) I am interested to see that Dr. Bradley expresses a view that I have often maintained : that in cases of homonymy we should " deliberately create an objective synonym to replace the junior homonym." in order to avoid changing the type. I suppose the Commission could suppress the senior homonym in cases where the latter is of no consequence in its group (e.g., a junior synonym), but this again would make us dependent upon the Commission. Can we not devise Rules that taxonomists can work in the great bulk of cases, and leave the Commission free to resolve difficulties when (or if) they arise ?

27-28. It is perhaps worse than I pointed out, but I hope not as bad as Dr. Bradley fears. Whether such cases are common or uncommon, the only solution does seem to be arbitrary action under the plenary powers, with the advice of specialists concerned.

37-38. I would enthusiastically accept Dr. Bradley's suggestion for treating supergenus without employing any characteristic termination, and accordingly (I presume he meant) without making it co-ordinate with other suprageneric names.

(XX). There is a difference in wording but not in essentials. I have no objection to the statement in the first paragraph. But, of course, in the final analysis, the interpretation of the type genus of a family can only rest on the identity of the type species of the genus. If the latter has been erroneously interpreted (=" misidentified genotypes " of my brief reference), the discovery of the fact causes the " most serious difficulty in family names " to arise.

(XXX). Uniformity would indeed be desirable. Probably I should not have introduced the question, but left it for workers in other phyla where practices have become stabilised in other endings (if there are any).

APPENDIX 4 TO DR. W. I. FOLLETT'S LETTER OF 23RD JULY 1952

COMMENTS RECEIVED BY DR. FOLLETT FROM MEMBERS OF THE NOMENCLATURE COMMITTEE OF THE SOCIETY OF SYSTEMATIC ZOOLOGY, OTHER THAN FROM MR. CURTIS W. SABROSKY, THE COMMENTS RECEIVED FROM WHOM WERE ANNEXED TO DR. FOLLETT'S LETTER AS APPENDIX 1, ENCLOSURE 2, AND APPENDIX 3

Enclosure 1 to Appendix 4 to Dr. Follett's letter

Communication furnished by Dr. W. I. FOLLETT

I adopt the discussion and recommendations by Mr. Curtis W. Sabrosky on the subject of names of families and co-ordinate categories, and his comments upon Dr. Bradley's remarks, as setting forth my views more accurately than I could have expressed them.

Enclosure 2 to Appendix 4 to Dr. Follett's letter

Communication furnished by Professor CHARLES D. MICHENER

I agree with Bradley's comments on Sabrosky's paper.

Enclosure 3 to Appendix 4 to Dr. Follett's letter

Communication furnished by Professor HENRY TOWNES

(*Letter dated 20th May* 1952)

I read over the material with interest and express the following opinions on the questions of family and subfamily names :—

(2) The amount of discussion and the complications regarding family names indicate confusion of ideas and a rather unworkable system. I believe that family (also subfamily, tribe, and superfamily) names should be based on the stem of the oldest available generic name included. This method avoids all arguments about date of publication, author, homonyms, synonyms, etc. It also is a method that is workable with available bibliographic tools and results in names at least as much in agreement with current usage as any other. If family names were ever subject to rules, probably the Stricklandian code had as much influence as any, as it was in force at the time most family names were coming into use. That code, I am told, recommended use of the name of the oldest included

genus as the stem of the family name. Why are we rejecting it now ? Probably because so much of the talking and writing about family names has been done by muddlers, and the basic ideas have been lost in the furor about " familiotypes."

The only place I have found difficulty in using the valid name of the oldest included genus as the basis of the family name is where there are two or more genera of the same age. Here, it seems best to use the principle of first reviser, selecting the one first used as the basis of a supergeneric group name.

Enclosure 4 to Appendix 4 to Dr. Follett's letter

Communication furnished by Professor JOHN W. WELLS

(*Letter dated 11th June* 1952)

NAMES OF FAMILIES AND CO-ORDINATE CATEGORIES

(*Summary, Comment and Recommendations by Sabrosky*) :

Paras.	**4-6.**	Approve as recommended by Sabrosky.
,,	**8-9.**	Omit ,, ,, ,, ,,
Para.	**10.**	Approve ,, ,, ,, ,,
,,	**11.**	Approve ,, ,, ,,
Paras.	**12-13.**	Approve as recommended by Hemming, not Sabrosky, except that no exceptions of any sort should be allowed.
,,	**30-33.**	Approve.
Para.	**25.**	Disapprove the saving clause. The author of a family, and date, can only be he who first used termination " idae," just as in case of substitute generic names.
,,	**26.**	Approve as recommended by Hemming, not Sabrosky.
,,	**14.**	,, ,, ,, ,, Sabrosky.
,,	**29.**	,, ,, ,, ,, ,,
,,	**15.**	Disapprove as recommended by Hemming or Sabrosky. Family names should be treated exactly as generic names.
Paras.	**27-28, 34-38, 39-42.**	Approve as recommended by Sabrosky.
,,	**43-48.**	Disapprove strongly of any kind of *Official List* or *Official Index*, on grounds of too much work for Commission, involves perpetuation of errors—a most unscientific principle, and just plain lack of any sound reason for such a thing.

Enclosure 5 to Appendix 4 to Dr. W. I. Follett's letter

Communication furnished by Dr. JOHN T. ZIMMER

Family names should uniformly end in " -IDAE " ; subfamily names, in " -INAE." Names to date from the first use of the name, regardless of its ending, in a true suprageneric sense. Family names should not be changed when the name of the type genus is changed (=repeal of Article 5) which may require placement of the name of the type genus on the *Official List*. In case of homonymy, the Commission may change a family name.

Value of citing author and date of family names is questionable. In any case priority is *not* to be on the basis of the family name whose type genus first had its type species elevated to that position ! Should be on strict priority of the names themselves or the appropriate stems with, perhaps, an ending other than " idae."

Tribal names may end in " -INI " but Supergenera are hardly entitled to consideration other than as conveniences, not true nomenclatural groups. They should not be dignified by regular endings.

Superfamily names co-ordinate with family names, to end in " oidea."

An *Official List of Family Names* seems desirable ; also an *Official Index of Rejected and Invalid Names.*

DOCUMENT 3/35

Statement of the views of the
AMERICAN COMMITTEE ON ENTOMOLOGICAL NOMENCLATURE

Enclosure to a letter, dated 24th July 1952, from
Professor CHARLES D. MICHENER, Chairman

Family Names (Commission's Reference Z.N.(S.)357)

In presenting the views of the American Committee on Entomological Nomenclature, it has been found convenient to refer to the paragraphs of Mr. Hemming's proposal (1952, *Bulletin of Zoological Nomenclature*, **7** : 61-94). The paragraphs below are therefore numbered to correspond to the paragraphs of Mr. Hemming's article. One general simplification which is recommended is that instead of repeatedly stating that specialists can apply to the Commission if they wish exceptions to the rules made, a final statement to this effect would suffice.

(a) Names of Families and Subfamilies

STEM :

Paras. **4-6.**

We recommend rewording Art. 4 to read : " The name of a family is to be formed by adding the suffix " -IDAE," the name of a subfamily by adding " -INAE " to the stem of the name of its type-genus, " stem " for this purpose being interpreted by the two paragraphs that follow :—

(a) In case of a name which is not, or the terminal element of which is not a classical noun, the " stem " within the meaning of this article shall be that portion of the name that shall be first selected to receive the suffix " -IDAE," " -INAE," or any other patronymic (or equivalent) suffix intended to convert that generic name into the name of a group higher than genus.

(b) In case the name or the last element of the name consists of a classical noun, the " stem " as here used shall be understood to consist of the genitive form of that noun without its case-ending.*

So far as barbarous words or arbitrary combinations of letters are concerned, it is obvious that any result is arbitrary. A rule in a Schedule could be helpful, but should be only advisory. The person who first establishes a plural group name based on such a barbarous name should have the privilege of establishing what that stem is to be.

*This will not always be the classical form of the stem, particularly in the case of vowel stems, but it will be that part, form, or contraction of the stem that the ancients would themselves have used in combination with a suffix commencing with a vowel, is entirely appropriate for neo-Latin, and is in fact the usage of the most careful linguists among zoologists since the days of Linnaeus.

Paras. **7-10**

We recommend that these sections be omitted, as a contribution toward making the rules more simple and direct. Any changes that would be required as a result of general enforcement of the rules on stems will be of such minor nature as to be unimportant. The above recommended rule on stems is mandatory and can lead to but one result. Anything else is a misspelling. A correction should be required whenever such a mistake is found to exist. But, in his article on emendations, Mr. Hemming has been at pains to differentiate such a *change of incorrect spelling* from an emendation. From this point of view a technical emendation of a family name could result only from an emendation of the generic name on which it is based.

TYPE

Para. **11**

Approve, but suggest that it would be appropriate to add here the provision, which Mr. Hemming has elsewhere, that the originally established *familiotype* is not subject to change, though its *name* may sometimes have to be changed. (Cf. discussion of paragraphs 25 and 14.)

SUBFAMILY NAMES

Paras. **30-33**

We approve but would go farther and state that all suprageneric groups based on a generic name must be co-ordinate, even though called (as many old authors have done) by some unrecognised name, such as legion.

DATE OF PUBLICATION

Paras. **12-13**

We recommend a rule that a family name dates from its first publication as a suprageneric group name based on an included genus, regardless of the ending employed and regardless of what the author called his suprageneric category (family, stirps, etc.). This rule will avoid attempting to decide on a date before which some names may be validated on other than " -IDAE " endings (1850 suggested by Mr. Hemming), and will avoid the need for and the trouble with applications to save those old names. Actually, many of the old names which used other endings, before the " -IDAE " ending was widely (and quickly) accepted, are the old familiar families which everyone will wish to preserve anyway ; e.g. TIPULARIAE Latreille, CULICIDES Billberg, TABANII Latreille, etc. Example of the difficulties that may arise by insistence on the " -IDAE " form : The family name of the moth flies dates from PSYCHODITES Newman 1834, or from PSYCHODIDAE Bigot 1854. But if one dates that only from the " -IDAE " ending in 1854, then the oldest name for the family is actually FLEBOTOMIDAE Rondani 1840 (emended PHLEBOTOMIDAE Walker 1851).

Mr. Hemming mentions vernacular names, especially as used by French authors. We see no reason why these might not be accepted for the older names (e.g. before 1850), provided, however, that it is clear that they are *group* names (suprageneric) and not merely a way of referring in the plural to the species of one genus.

AUTHOR

Para. **25**

Approved, with the understanding that the author to be cited is the author of the suprageneric name, regardless of rank or termination assigned it. We should add, " If it is desired to cite the author who first assigned a particular rank and limit to a suprageneric group, this may be done by adding in parenthesis ' (sense of so-and-so, such-and-such a date).' "

Also, we see no advantage to be gained by citing a substitute name by the author and date of the name which is replaced, if the Rules somewhere make clear (probably under TYPE, par. 11) that the first proposal establishes the familiotype for all time, and that it does not change, though its name may be changed. The proposed citation would be incorrect and confusing from a bibliographical standpoint. (See also comment under para. 26, following.) The final wording of the section should of course fit the action taken on date of publication (12-13).

CITATION

Para. **26**

We recommend that authors and dates shall not be given for suprageneric names, in the way that they are customarily given for generic and trivial names, unless the person referring to the names needs to distinguish between them, as in discussing the suprageneric nomenclature of a group. We recommend this as a step toward minimising the personal element as much as possible. Perhaps a person will not propose so many tribes, sections, subsections, etc., if he knows that this name will not appear every time one is cited.

Some remarks under Author (25) are pertinent here. For substitute names, we should cite them (using Mr. Hemming's example) as " RIODINIDAE Grote, 1895," or " RIODINIDAE Grote, 1895 (ERYCINIDAE Swainson)," or " RIODINIDAE Grote, 1895 (pro ERYCINIDAE Swainson, 1827) (=X-IDAE Westwood, 1840,") depending on the detail which is necessary or desired.

CHANGE OF NAME OF FAMILIOTYPE

Para. **14**

Approve, except for the back-dating (see our comments on paragraph 25). Back-dating is a method that would ensure the continuity of the type concept, i.e. that a family name should follow the nomenclatorial course of its original familiotype. We oppose back-dating partly because it is bibliographically incorrect and misleading, and partly because the rules would be simplified that much more to eliminate it here and elsewhere. The goal of continuity, in which we concur with Mr. Hemming, can be attained more simply and directly by writing the provision into the section on Type (par. 11), q.v.

Para. **29**

Approved.

Para. **15**

Approved, but we should make it part of the general problem of synonymy (see notes on paragraphs 21-24, *b*).

Paras. **21-24**

We feel that there are two problems here. One (paragraph 22) has to do with the " situation arising when a family name is not based upon the name of a genus included in the family." We doubt that this situation exists today, and recommend that the section be omitted. It seems probable that this situation has been incorrectly raised to the status of a current problem by *Opinion* 141, Summary (3), Note, which refers to " a few *well-established* family names proposed by early authors " but not based on included genera (italics ours, here and below). Actually, however, in *Opinion* 133 (upon which 141 is based) Dr. Stiles appears only to have been mentioning the existence of such names in early time, without meaning to carry the problem to the present (*Opinion* 133, p. 42, last paragraph : " Since with the exception of isolated instances by *early authors*) family names are based . . ."). Example, in Diptera : The family of the small-headed flies was first called INFLATA and then VESICULOSA (VESICULEUX), both names referring to the swollen appearance of the body, and not based on generic names. But these names were soon abandoned in favor of such names as ACROCERIDAE, HENOPIDAE and CYRTIDAE, based respectively on *Acrocera*, *Henops* and *Cyrtus*.

The second problem has to do with the proposal that family names should not be changed when the familiotype is found to be a junior synonym. We recommend that family names should *not* be changed when the familiotype is found to be a junior synonym, whether objective or subjective. Mr. Hemming has directed the discussion to the " exceptional " feature, but we believe that this should be a regular procedure to aid in future stability of family names, as Mr. Hemming has agreed in part in paragraph 15. We see no great gain or value in being able to recognise the current name of the familiotype in the family name. Non-systematists have neither need nor care for that, and systematists have no need, for any systematist worthy in a group will necessarily know both the senior and junior synonyms. One could make an equally strong case that it would be an " extremely great gain " to be able to recognise from the family name what is the original familiotype.

Numerous examples can be cited where such a rule would have avoided changes of names and thus contributed to stability. The sixteen families of Diptera that involve Meigen 1800 vs. 1803 names for their familiotypes are good examples : *Chironomus* 1803 could change to *Tendipes* 1800 and the family name could have remained CHIRONOMIDAE. French writers who have used LARVAEVORIDAE (*Larvaevora* Meigen 1800) still call the flies " les tachinides." One family of Diptera has had four names as a result of synonymy (successively, RHYPHIDAE, ANISOPODIDAE, PHRYNEIDAE, SYLVICOLIDAE), when one name (RHYPHIDAE) could have sufficed. With all the changes that are bound to come when all five or ten million species of insects are known, let us plan to avoid any more changes than absolutely necessary.

A more detailed discussion of the matter follows : There are three classes of cases in which the name of the familiotype may change.

(*a*) The name of the type genus is a junior homonym.

(*b*) The name of the type genus is an objective junior synonym.

(*c*) The name of the type genus is subjectively considered to be a junior synonym.

Once the type genus has been established, it would be contrary to all principles of types to change it, and therefore not allowable.

In cases (*a*) and (*b*) there is no change in the type genus involved, it is only a question of the name under which it is known.

In case (*c*) it is only a matter of opinion that the senior name applies to the same group. We are confronted with two *nominal* genera, and to shift from one to the other would be a change of type, therefore not theoretically allowable.

In such a case it is clear that the above recommended plan is correct; the junior synonym remains the name of the nominal type genus and must (by definition) be that upon which the valid family name is based, even by authors who subjectively reject it for the genus.

In case (*b*) it is theoretically possible to base the family name upon the name of either objective synonym, for they are but two names for the same type genus. Another alternative in such cases is for the Commission by plenary action to conserve the junior synonym at the generic name level. We might have such a rule as :—

> " In case the name of the type genus of a suprageneric group is found to be a junior objective synonym, the Commission shall, under its plenary power, conserve that name, unless there are strong reasons for doing otherwise."

In case (*a*) we cannot use the junior homonym, because of conflict or possible conflict with suprageneric names based on the senior homonym. There should be a rule directing the Commission to suppress the senior homonym if it is without possible utility in its phylum. If this cannot be done, and there is no objective synonym of the junior homonym, then there remains only one legal recourse. This is to deliberately create an objective synonym to replace the junior homonym, which then becomes available (*a*) for basis of the family name, and (*b*) as a substitute for the junior homonym that is the unavailable name of the type genus, for any one who rejects all subjective synonyms, and then to use this objective synonym as basis for the family name. If the result is objectionable, the Commission can suspend the rule in favour of another name. It is not possible in any other way to select a new family name based on some other nominal genus (as OTITIDAE instead of ORTALIDAE) since to do so would be to change the type genus, which is illegal. This could not be done even if the replacing name were a subjective synonym of the junior homonym.

FAMILY NAMES IN COMPETITION

Paras. **16-19**

We agree with Mr. Hemming in wishing to base a decision on priority of some sort, but recommend that it be the priority of the oldest proposed family name, and not of the designation of the genotype. His reason (" to ensure," etc.), will apply equally well to our method : Determine the oldest proposed family name, in which will appear the name of the familiotype, and the concept

of that family will follow the type species of that genus. It seems to us that this is more simple and direct, and would also tend to preserve continuity and usage in the older family names. Suppose for example that a family proposed in 1820 was based on a large genus whose type was not fixed until 1880. In 1920 another family was proposed for an aberrant genus known from a single species since 1810. In 1930 an author who combined the two families would be obliged under Mr. Hemming's proposal to reject the century-old family name and adopt the younger one, which happened to have the oldest fixed genotype. The principle of oldest proposed family name also enters into paragraphs 20 and 27-28.

Para. **20**

We recommend omitting this as a separate provision, as it would be covered by a general statement (see first paragraph of this discussion of family names).

Paras. **27-28**

Mr. Hemming's suggestion " to be rejected as a junior homonym " produces an impasse. The type genus of the suprageneric name is that which gives its stem to the homonymous suprageneric name ; but the genus is not a homonym and its name is valid. To shift the type genus is impossible under the rules, and would nullify the existence of any type. Yet there is only one way to form a suprageneric name under the *Règles* from that generic name. The only escape is by suspension of the rules and plenary action.

(b) Names of Units between Subfamily and Genus

Paras. **34-36**

Approved.

Paras. **37-38**

Approve, except for the saving clause on the suprageneric names. The argument of " preventing displacement of an established " name by down-grading of an older name from a higher level could as well be applied to any category. Treating them thus would set up a special case within a case. If they are to be based on generic names, by adding some appropriate ending to the stem of the supergenotype, it would seem to me best to incorporate them completely into the system.

We believe, however, that the name of a supergenus should be the name of the nominotypical genus, without changed ending. In citation it would be distinguished by insertion of the word " supergenus " before it.

(c) Names of Superfamilies

Paras. **39-42**

Approve, except for the saving clause on the priority *inter se* of the names. It seems that these may as well be co-ordinated completely with the system. Their existence should never complicate the priority of family names, for they will be formed from already existing family names. If superfamilies are combined, of course, then one may reasonably require, as with the union of two or more families (para. 16-19), that one should select the first to be proposed as a superfamily.

We speak of the type genus of tribe, of subfamily and of family. We should do the same for superfamily. We do not speak of type genus of tribe, type-tribe of subfamily, type-subfamily of family, nor should we speak of type-family of a superfamily. It is, however, perfectly permissible for descriptive purposes to speak of the typical or nominotypical family, subfamily or tribe.

(d) Official List and Official Index

Paras. **43-48**

We approve of Mr. Hemming's proposals, with these suggestions :—

(*a*) that each suprageneric name be entered in the form in which it was first established, with author, date, followed by its first usage, if any, with each of the authorised suffixes " -INI," " -INAE," " -IDAE," and " -OIDEA."

(*b*) that the list be entitled *Official List of Suprageneric Names in Zoology.*

(*c*) that somewhere a suprageneric name be defined as any name of a group higher than genus based on the stem (or its equivalent) of a contained genus with a suffix added to indicate its rank.

(e) Additional Problems

The most serious difficulty in family names arises in the case of a name the type genus of which actually belongs to a taxonomic group far removed from that to which that name was believed to belong. All such cases should be brought to the attention of the Commission as rapidly as possible. A regulation should instruct the Commission under its plenary power to set aside the type-species of such genera, and to establish new type-species that will conserve the accepted meanings of the generic names.

American Committee on Entomological Nomenclature.

CHARLES D. MICHENER, *Secretary.*

DOCUMENT 3/36

Statement of the views of the ENTOMOLOGISCHE GESELLSCHAFT, BASEL

Extract from a letter, dated 30th July 1952, from M. HENRY BEURET

(Note :—The numbers cited in the following statement are the numbers allotted to the paragraphs in the paper on the subject of family names by the Secretary to the International Commission on Zoological Nomenclature published in March 1952 in Part 3 of Volume 7 of the *Bulletin of Zoological Nomenclature*.)

Vol. 7. Part 3

No. **1-10** Rien de special à remarquer ; sommes d'accord avec vos propositions.

No. **11** Le problème exposé sous ce numero à été longuement discuté ; finalement nous avons décidé d'accepter vos propositions.

No. **12-14** Rien de spécial à remarquer.

No. **15** Le changement d'un nom de famille ne devrait, á notre avis, *pas être exclu d'emblée :* il nous parait necessaire de laisser une porte ouverte. Nous votons donc pour l'alternative (2).

No. **16-22** Rien de spécial à remarquer.

No. **23-24** D'accord avec vos propositions.

No. **25-30** Rien à remarquer.

No. **31** Le remplacement de la syllabe " -INAE " par " -ITAE " causerait sans doute des perturbations si graves que l'en devrait, à notre avis, *conserver* " -INAE " comme vous le proposez.

No. **32** Tout à fait d'accord avec vous.

No. **33-36** Rien à objecter.

No. **37-38** Nous ne veyons pas la *nécessité* d'introduire la catégorie de " supergenus." Néanmoins, nous ne voulons pas voter centre si d'autres systématiciens la réclame.

No. **39-40** D'accord.

No. **41-48** Rien à objecter.

DOCUMENT 3/37

By J. CHESTER BRADLEY
(*Cornell University, Ithaca, N.Y., U.S.A.*)

Statement received on 30th July 1952

Family Names

(Commission Reference Z.N.(S.)357 in *Bull. zool. Nomencl.*, Vol. 7)

Para. **4**

It is entirely clear that the unfortunate use of the French word " radical " (=English : " root ") in place of " thème " (=English " stem ") was an unintentional misuse of terms that could not have been made by a person familiar with the terminology of grammarians. Any serious attempt to literally apply it would have been disastrous : Whole families of words have the same root. The stem of stabilitas is stabilitat—and a family name based on the stem of a generic name Stabilitas would be Stabilitatidae. The root of stabilitas, in common with that of the whole group of words to which it belongs is " stá." But this root also has a weak form " sta." If the family ending were added to the root there would result a proper contraction from STA-IDAE. But the same family name would result from all nouns in the same great word group. The practical results would be so ridiculous that it is obvious that the framers' of the Berlin *Règles* in writing " radical " really meant " thème " ; the Graz Congress merely corrected the wording but did not change the intent of the original framers.

I do not agree that it is ordinarily a difficult matter to find the stem of a definite classical substantive. The lexicons show, just for this purpose, the form of the genitive as well as the nominative and all one has to do is to drop the case ending from the former and the stem remains. The only difficulty comes in certain vowel stems, and these could probably be covered with the guidance of a few simple rules in a Schedule. The real difficulty lies in determining the stem when there is no clear indication as to what classical word was used to form the terminal element of the generic name, or in cases where the generic name is avowedly based on a barbaric word, or is an arbitrary collection of letters. In all these cases I believe that the author first using the genus as the type of a group name of rank higher than genus, and therefore forced to select a stem, or a combination of letters that is the equivalent of a Latin stem for the barbaric or other word, in order to add a patronymic or equivalent ending, should be allowed the privilege of selecting such part of the generic name to be the stem as he sees fit, and that the regulations should provide that once such a selection has been made, the part so selected shall become the stem of that word, in the sense meant by the rule for forming family and other similar names.

I quite agree that the solution adopted at Paris is inadequate and must be revised. Further discussion will be from the viewpoint of Article 4 of the *Règles* before it was amended.

Para. **6**

The addition of a schedule giving help in finding the actual stem of a classical word, and giving suggestions as to how to proceed to select letters that should serve as the equivalent of a stem in the case of a non-classical stem would be desirable. It should contain instructions as to how to use a classical lexicon for the former purpose.

Para. **8**

Is it not incorrect to speak of the emendation of a family name in the sense that emendation is applied to generic names ?

The directions of Article 4 are definite : Start with a generic name, find its stem, add the ending " -IDAE " or " -INAE." It can only come out one way,* if it does not the rule has not been followed, and the family name is misspelled. But the rule is mandatory ; therefore a change of the incorrect spelling—not an emendation—is required.

Suppose we were to reword Article 4 as follows :

The name of a family is to be formed by adding the suffix " -IDAE, " the name of a subfamily by adding " -INAE " to the stem of the name of its type-genus, " stem " for this purpose being interpreted by the two paragraphs that follow :

(*a*) In case of a name which is not, or the terminal element of which is not a definite classical word, the " stem " within the meaning of this Article, shall be that portion of the name that shall be first selected to receive the suffix "-IDAE," "-INAE," or any other patronymic (or equivalent) suffix intended to convert that generic name into the name of a group higher than genus.

(*b*) In case the name or the last element of the name consists of a definite classical noun, the " stem " as here used shall be understood to consist of the genitive form of that noun without its case ending.†

I believe that these misspellings should be weeded out as rapidly as discovered, that they should not be looked upon as emendations, that no attention should be paid as to whether they have been discovered in the past and corrected or have yet to be, and that the suprageneric name should date from its original introduction, even though misspelled.

Most of the difficulty has in the past arisen in the case of words with increasing genitives, or more exactly, words in which the nominative is a contracted form. It would be helpful to list a few of the most persistent trouble-makers, so that authors could be on their guard. For example (by transliteration to Latin) *stoma*, the stem of which is *stomat-*.

*Exception occurs in the case of some vowel stems. But this need occasion no difficulty, as the insertion of a practical provision into Article 4 will take care of these cases and greatly simplify the family name formation for non-classicists.

†This will not always be the classical form of the stem, particularly in the case of vowel stems, but it will be that part, form, or contraction of the stem that the ancients would themselves have used in combination with a suffix commencing with a vowel. It will therefore give, very simply, the results originally sought by Article 4. It has the great advantage of simplicity, for the form of the genitive of every classical noun is shown in the usual lexicons, and all that has to be done is to drop the case-ending.

Para. **11**

I concur emphatically that the person who erects a group higher than genus has the choice of the type genus. Any other course is contrary to all principles and definition of " type " for the latter *must* be stable and can not be allowed to fluctuate.

Para. **12**

A supra-generic group (below the rank of suborder) must be considered to have been established, and, in consequence, its name to have been published as from the date when a Latin (or Latinized) term was first applied to a given group of genera, irrespective of the termination then employed for the term so used provided that the term was based on the name of some one of the contained genera with the addition of some suffix, irrespective of what suffix was employed. The tribe, subfamily, family and all other categories (whether officially recognised or not) based on a contained generic name with some added suffix are and must be nomenclatorially co-ordinate. Therefore, when a suprageneric group name is established, tribe, subfamily and family are all potentially established, and it is solely a matter of subjective taxonomic judgment which rank may best be assigned the suprageneric group, and this rank may be expected to be subject to continual fluctuation.

I have always thought that some Latin suffix should be required in order to consider a group established. However, if it will tend to create harmony and the French are strongly of the opinion that vernacular terminations should be recognised (for the purpose of establishing publication), I would agree, but as a somewhat undesirable compromise.

Para. **13**

As stated above, the *rank* accorded a suprageneric group is purely subjective. Whenever one is established, a potential family, even superfamily (but see later qualification) is founded. It should make no difference in principle then what termination was applied or when. Nomenclatorially, the essential act has been performed when the suprageneric group has been established, just as a potential genus has been established when a subgenus has been founded.

I see no advantage and much disadvantage from dividing our practice as before or after a given date, or as before or after its use of a particular suffix.

It is much more difficult to trace the bibliographical history of a family name than of a generic name. Let us examine the following hypothetical case as illustrative of one of the difficulties that the suggested course (adopting suprageneric names prior to 1950 as having family equivalency, regardless of termination but after that date not until they are established with the suffix " -IDAE.")

The group ACHILIDES was established in 1871, but not until 1903 was the form ACHILIDAE used and (according to the Secretary's plan) the family established. Meanwhile it had won general recognition as a tribe, subfamily or family under one or another termination. Let us now assume that in 1900 a small and little known group was split off as a family TROPIDUCHIDAE but that this has since been placed by all authors as a tribe of ACHILIDAE. Nevertheless, we would now have to change ACHILIDAE to TROPIDUCHIDAE, the senior subjective synonym.*

*This is a misunderstanding of my suggestion.—F.H.

Para. **14**

I strongly concur with the Secretary's recommendation which may be expressed by the following general statement of principle: A suprageneric group with a name based on the name of a contained genus is established when its name is first published, regardless of whether the name employed for its type genus is a valid name, or a junior homonym of another name, or an objective junior synonym of an earlier name. In case for either of these reasons the name of the type genus is changed, the name of the suprageneric group must undergo corresponding change, but the type genus is only nominally, not actually changed, since both the names applied to it are objective synonyms.

Para. **15**

I think that we must recognise a name given to a tribe, subfamily, family or any other category employed for a suprageneric group based on the name of a contained genus as co-ordinate (later exception for superfamily), the subjective question of rank having no nomenclatorial significance. With this in view, I should prefer to see the principle established (just in reverse of the Secretary's proposal) that, if the name of the type genus is thought to be a subjective junior synonym, the type genus of the suprageneric group actually remains the same nominal genus, but that any one so holding shall employ the senior subjective synonym for the valid name of the genus and for the basis of the valid name of the suprageneric group. Then I should add that, where specialists in the group concerned desire to retain the suprageneric group name based on the junior subjective synonym, especially where names frequently ranked as family are concerned, they may apply to the Commission for decision. The only great difference is that it would make it normal to have the group name follow along with a contained genus, and would probably result in less applications for relief to the Commission.

Para. **16**

In case two suprageneric groups of the same rank are united, I strongly agree with the Secretary that the older synonym among the two suprageneric names, subjective or objective, must prevail, and that the date of the founding of the names of the type genera has no relevance.

Para. **17**

The date of the founding of some genus within a suprageneric group has no possible bearing upon the type genus of that group, despite widely held misapprehension on that point formerly held.

Para. **18**

Apparently I do not understand the purport of this paragraph, for it is not apparent to me what relationship the date of the establishment of a type species for a genus has to the date of establishment of a suprageneric group. Let us consider an example with the results that would ensue: The great family ICHNEUMONIDAE with more than a thousand genera and many contained tribes, itself dating among the earliest of family names has as its type species the genus *Ichneumon*. The type species of *Ichneumon* was not finally determined until 1935 when the Commission under its plenary powers set aside all prior type designations and arbitrarily selected a type species to conserve the ancient

use of the name. If the suprageneric names ICHNEUMONINI, ICHNEUMONINAE, ICHNEUMONIDAE and ICHNEUMONOIDEA are to date only from 1935, then they must all be superseded by the names of other suprageneric groups based on a genus the type species of which was settled earlier.

The family name BRACONIDAE was one of the earliest used in the Order Hymenoptera, is large and very important. There are many subfamilies. The type of the genus *Bracon* Fabricius, 1804, was not established until 1825 by designation of Curtis. Meanwhile the type species of the type genera of other subfamilies, groups that came into use much later, had been established. Under the suggested procedure we would have to set aside BRACONIDAE and replace it with a family name based on the included subfamily the type genus of which was the first to have a type species fixed, as perhaps ALYSIINAE as based on *Alysia* Latreille 1804, the type species of which was established at that date by reason of its being the only included species. (I have omitted as immaterial the fact that the type species of *Bracon* was also set aside by the Commission in 1935 and a new type species designated.)

Para. **19**

I agree that the suggestion of first reviser, brought forward but rejected by the Secretary, is very objectionable.

As previously indicated, the plain and simple course seems to me to be the following :—

(1) A suprageneric group was founded when a group name was published, based on one of the contained generic names, with whatever added suffix. It makes no difference whether the position or form of the name to which the suffix was added was the classically correct stem, or not.

(2) The rank assigned the suprageneric name has no nomenclatorial significance, nor does any change of rank affect the date of establishment of the name.

(3) In a manner similar to the case of all generic names, the suprageneric name takes precedence over all junior synonyms, subjective or objective. (An objective junior synonym is a suprageneric name based on an objective junior synonym of its type genus. A subjective junior synonym is a suprageneric name established later with a type genus that is held subjectively to belong to the same suprageneric group), and falls in the presence of senior synonyms, objective or subjective.

I am confident that these principles, if adopted, will result in the least possible changes, taking into consideration tribal, subfamily and family names, because these are the principles that, although not formulated, have most generally actuated authors in dealing with such names.

The Commission must be authorised and prepared to grant relief by making exceptions in the cases (which I am confident will be relatively few) where clearly generally accepted names are threatened.

By far the greatest difficulty has been arising in the case of names the type genera of which are now known to have been misunderstood, the type species actually belonging to a taxonomic group far removed from that to which the name was believed to apply. *All such cases should be brought to the attention of the Commission as rapidly as possible and the Commission should be instructed under its plenary power to set aside the type species of such genera, and to establish type species that will conserve the accepted meaning of the generic names.* This was done at my request in the case of numerous families and subfamilies of Hymenoptera in 1935, and a number of such cases are now before the Commission.

Para. **20**

Agreed.

Para. **22**

Such rare cases can be specially handled under plenary powers, and the Commission should be authorised to do so, when, in its judgment, the case warrants. The authorisation already adopted at Paris seems adequate.

Para. **23**

It would seem to me far better, where such a case arises, to conserve the junior synonymous generic name, under the plenary powers, and thereby to achieve the desired conservation of the family name. The very case brought forward as an illustration emphasises this, for I am convinced that, whatever action the Commission may or may not take, the majority of zoologists will *not* abandon *Chironomus* in favour of *Tendipes*.

Para. **24**

I see no objection to the course indicated, though I should personally be doubtful that a case would ever arise where it would be really desirable to conserve the family name and at the same time *not* to validate the generic name on which it is based.

Para. **25**

Author of a family name. I can only think of this in terms of author of a suprageneric name, with no more regard to rank assigned it than we pay to rank as between genus and subgenus.

It has been very customary to apply the author's name after a tribal, subfamily or family name to imply the author who gave the name a certain rank and certain limits. This must be strictly prohibited in the future and had better be provided for by some such provision as " If it is desired to cite the author who first assigned a particular rank and limit to the suprageneric group, this may be done by adding in parentheses (sense of so-and-so, such-and-such a date)."

Para. **26**

Agreed, on the principle that it is the author of the suprageneric group being cited, not necessarily of the valid name of that group. With this in mind, might it not be simpler to provide that if the author of the suprageneric group used a name for it based on a different generic name, his name be cited but placed in parentheses ?

Paras. **27-28**

Hemming's suggestion "to be rejected as a junior homonym" produces an absolute impasse. The type genus of the suprageneric name is that which gives its stem to the homonymous suprageneric name; but the genus is not a homonym and its name is valid. To shift the type genus is impossible under the rules, and would nullify the existence of any type. Yet there is only one way to form a suprageneric name under the *Règles* from that generic name. The only escape is by suspension of the rules and plenary action.

The principle is the same throughout all suprageneric categories, and since there are many cases of two or more genera with identical stems, I shudder to think of the number of homonymous names that may exist at tribal level or above that have never been noted.

Para. **29**

Agreed, except that generic names that are not homonyms may produce family names that are identical, ex. gr. *Cyprinus* and *Cyprina*. I think the wording must be based on whether there is any difference in the *stems*, not in the nominatives.

Para. **30**

Agreed, except that (as I have previously stated) I think we must go further, and provide that the regulations must apply to all suprageneric names based on a contained generic name, without any regard whatsoever to the subjective rank assigned to them.

Para. **31**

Very strongly agree that the suffix "-INAE" must be retained for the subfamily.

Para. **32**

Strongly agreed to. The only exception in practice that I can think of is that myrmecologists have for some reason customarily used *Formica* as the type genus of FORMICIDAE, but placed it in the subfamily which they have termed CAMPONOTINAE.

Para. **33**

Strongly agreed to, as far as it goes.

Paras. **34** and **35**

Agreed to.

Para. **37**

Supergenus. I cannot recall where it is in practical use. I have thought of its involving the generic name without suffix (just as does the subgenus) and that while it would never be combined with the trivial name in citing a species, that it would differ from genus only in degree of comprehensiveness, that it would be an aggregate of genera. In citation it would be distinguished from genus only by insertion of the word "Supergenus" in front of it. Would it not be well to postpone rules for this category until demand appears? But somewhere in the *Règles* should be a list of primary categories from Kingdom

to species, with a statement that it is always permissible to provide intermediate categories by using the primary grades with the prefixes " SUPER- " or " SUB-."

Para. **39**

Agreed.

Para. **40**

Malacologists have almost universally used the termination " -ACEA " for superfamily. However, I have seen at least one instance of a recent author who has adopted " -OIDEA." I concur that " -OIDEA " should be the suffix. I do not like to see each category of this group of names defined in terms of a type consisting of a name of the next inferior rank. Is it not better to let the type genus stand as the type unit for all categories based on it ?

Para. **41**

I agree that, for purpose of priority, a special case must be made of superfamily, apart from other suprageneric names.

Para. **42**

Agreed.

Paras. **43-48**

Agreed to, but with two suggestions :—

(1) that each suprageneric name be entered in the form in which it was first established, with its author and date, followed by its first usage, if any, with each of the authorised suffixes " -INI," " -IDAE," and " -OIDEA," with the author and date of each.

(2) that it might be clearer to entitle the list " Official List of Suprageneric Names in Zoology."

Should not suprageneric name be defined as any name of a group higher than genus based on the stem (or its equivalent) of a contained genus with a suffix added to indicate its rank ? This definition would exclude subordinal and higher names.

Would it not be well to provide that systematists requiring additional levels of classification are at liberty to introduce such additional categories as phalanx, cohort, stirps, legion, etc. at points between genus and suborder, applying the same principles as for other suprageneric names, and to use any suffixes other than those received for tribe, subfamily and superfamily, but that it is not deemed necessary to make special provision for them in the rules.

Subtribe, however, is used so frequently that it should perhaps be included along with tribe. The suffix " -INA " is often employed.

DOCUMENT 3/38

By W. E. CHINA, M.A., D.Sc.

(*British Museum (Natural History), London*)

(1) Extract from a letter dated 20th August 1952

Ref. Z.N.(S.)357

I have also read through *Bull. zool. Nomencl.* Vol. 7, Part 3, dealing with the portion of the *Règles* relating to the formation of family names. Here, although I am in general agreement I am not in favour of the methods of determining the relative status of competing family names embodies in paragraphs 18 and 19. The use of the date on which the type species of the type genus was fixed to decide the priority of a family would completely upset our family names, since many genera have had the type species fixed only within recent years and thus the priorities afforded would be of a very low standard. The first reviser principle of paragraph 19 would, in my opinion, be impracticable. The first reviser is often the worst reviser and there has usually been an alteration in the use of group names which does not finish with the name selected by the first reviser. In my opinion, the Law of Priority should be the guiding principle in the selection of family names. A family name should be the first published group name based on the stem of a valid generic name, irrespective of the type of plural ending used by the author. The family name must date from the publication of this group name and the type genus, of course, is automatically the genus on which the group name is based. Considerable instability of family names has been due to the rule stating that " the name of a family must change when the name of its type genus is found to be a synonym, the family name can be retained since the its nominal type genus is found to be a homonym. When the nominal type genus is found to be a synonym the family name can be retained since the name of its type genus still remains within the family although as a synonym. Unless this system is adopted, family names will be continually liable to change. An *Official List of Family Names*, as proposed in paragraphs **45-48** could validate names of families, whose type genera have become synonyms.

There is one point which I cannot find clarified in your report. That is, to whom should a typical subfamily be attributed, the original author of the family or to the author of the subfamily grouping ? Since subfamilies are co-ordinate with families, I presume that the date of a typical subfamily would be the same as that of the family in which case the author would also be the same. What about the other non-typical subfamilies ? Surely they must be attributed to their respective initiators and given their dates of initiation !

As regards paragraph **38** I suggest the ending " -ARIA " to the stem of the type genus of a supergenus. This ending was used extensively by Distant in his *Fauna of India* volumes for groups of genera below tribal rank.

(2) Extract from a letter dated 20th September 1952

Z.N.(S.)357. New family names based on a generic name substituted for the original type genus which has become a homonym

I agree with you that for purposes of stability the new family name should take the date of the old family name. Thus, RIODINIDAE should take the date of the previously used ERYCINIDAE. I was previously confusing two ideas, the need for a Law of Priority in family names and the need for a family name once established to follow the vicissitudes of its type genus. There is, of course, always the chance in such cases that a new family name based on a substitute generic name may change again because the genus which had priority and should have been selected as the substitute name had been overlooked and some later name used as the substitute. I therefore think that for the purposes of stability, no time should be lost in establishing an *Official List* of all family names.

DOCUMENT 3/39

By K. H. L. KEY

(*Commonwealth Scientific and Industrial Research Organisation, Division of Entomology, Canberra, Australia*)

Extract from a letter dated 4th September 1952

(Note :—The main portion of the above letter was concerned with the problem of the emendation of names, on which a separate paper has been submitted by Dr. Key and which constitutes Document 5/26 of the Copenhagen Series.)

I have studied your proposals in connection with the other six questions referred to you by the Thirteenth Congress, and, in general, I find myself in hearty agreement with them.

DOCUMENT 3/40

By D. LESTON
(*London, England*)

Enclosure to a letter dated 7th March 1953

Editorial Note: *The following note is an extract from a paper by Mr. Leston entitled "The Suprageneric Nomenclature of the British Pentatomoidea (Hemiptera)," which was published in January* 1953 *in the serial publication "The Entomologist."*

In the hope of contributing to the stability of *nomenclature* in this present period of taxonomic fluxion, the group names used in the classification of the British Pentatomoidea have been investigated.

The principle of giving priority to the oldest Latin group name of suprageneric rank has been used but, if the name of the original type-genus has changed (in accordance with the International Rules or *Opinions*), then the group name has been changed accordingly. Horváth (1911) followed the oldest group-name method as opposed to Bergroth's (e.g. 1926) use of the oldest generic name as the root of a suprageneric unit, but Horváth refused to alter a group-name when its type-genus had been relegated to synonymy. Thus he retained PLATASPIDAE Dallas 1851 although Kirkaldy (1909) had shown *Plataspis* Westwood 1837 to be a synonym of *Brachyplatys* Boisduval 1835. (Bergroth's remarks (1906) to the effect that *Plataspis* and *Brachyplatys* were distinct were not based on a study of the genotypes.) Leston (1952) has therefore raised the name BRACHYPLATIDAE in place of PLATASPIDAE; it is obvious that the original type-genus of the first erector of this suprageneric group has remained unchanged. The alternate name used by many authors, COPTOSOMATIDAE (or COPTOSMIDAE), was based on the oldest generic name.

Schouteden (1906c), on the question of "Asopinae," wrote "Pour être rigoureusement exact il faudrait cependant changer le nom de la sousfamille en Amyotinae, le nom du genre type *Asopus* ayant du être remplacé par *Amyotea*." Therefore Schouteden placed AMYOTINAE on the title-page of his monograph, but unfortunately in brackets after the disqualified name. It is shown by Schouteden's use of Asoparia on a later page that he did not intend to replace ASOPINAE by AMYOTINAE and thus the latter name is proposed below.

The method used here is also used by China (1943) when, showing that *Stenodema* Lap. must replace *Miris* Reuter *nec* F., the type genus of MIRINI Reuter *nec* Hahn, he amends the tribal name to STENODEMINI China. (But China retains BERYTIDAE although pointing out that the type genus, *Berytus* F., is a synonym of *Neides* Latreille.) Similarly, Carvalho follows the same practice throughout his recent revision of the MIRIDAE (1952).

Group names ending in -ides have been accepted as being Latin and both Leach (1815) and Billberg (1820) intended such; unfortunately, the same ending when used by Amyot and Serville (1843) is undoubtedly French and

their names thereby invalid. Such names used by them as Stiretrides (p. 74), Phleides (p. 115) and Megymenides (p. 181) are obviously vernacular. Sailer (1945) bases a subfamily name, EUCORIINAE, on a vernacular name, Eucoriens Mulsant and Rey (1866) but, as pointed out by McAtee and Malloch (1945), Eucoriens is invalid ; Sailer's action validates it as EUCORIINAE Sailer. Van Duzee (1917) was inconsistent ; e.g. he accepted Sciocorides A. & S. but not Sehirides A. & S.

To bring the work into line with current usage, the equivalent names used by Van Duzee (1917), Stichel (1935) and Poisson (1951), as well as those of China (1943), are given ; the last-named classification has, for convenience, been followed except for one change. Although no official ruling has been given by the Commission it is anticipated that *the original author of a group shall be cited at no matter what level*—tribal, subfamilial or familial—*the group is subsequently placed* by taxonomists. Thus Pentatomoidea Leach, Pentatomidae Leach, Pentatomini Leach are considered here as correct. The old method seems to have been arbitrary : e.g. Stichel (1935) cites Miridoidaria Stichel, Miridae Dohrn 1859, Mirinae Reuter 1910, Mirini Reuter, 1875 ; the oldest group name, Mirides Hahn (1831), not originally conceived as vernacular, has been overlooked by Stichel and it would appear that Hahn should be cited as the author of all these groups.

The advantages of the method used here are : (1) its simplicity ; (2) the retention of the original author's name through all the later vicissitudes splitting or lumping, upgrading or downgrading, of the group during the subsequent development of taxonomic theory and practice ; (3) the strict parallel with the rules on generic nomenclature ; (4) its compliance with the International Rules as far as they have been formulated on the subject of group-names.

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Notices to Subscribers

(1) With the publication of the present Part (Parts 6/9), volume 8 is complete, except for one concluding Part, containing the Title-Page, Table of Contents and the Index. It is hoped that this Part will be published in the late summer of the present year.

(2) Owing to the need for concentrating upon the preparations for the Colloquium on Zoological Nomenclature to be held at Copenhagen at the end of July 1953 and for the meeting of the International Commission on Zoological Nomenclature to be held immediately thereafter, it has been necessary temporarily to stop work on the current volume of the *Bulletin of Zoological Nomenclature*. A considerable amount of matter is however in an advanced state of preparation, and it is hoped that further Parts (commencing with Part 6 of volume 9) will be published shortly after the Copenhagen meetings.

(3) The index to volume 6 has now been completed and is in the press. It is hoped that it will be possible to publish this (with the Title Page and other Introductory matter) in a concluding Part (Part 12) within the next few weeks.

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